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Identifying characteristics of students who opt for distance education.

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IDENTIFYING CHARACTERISTICS OF STUDENTS WHO OPT FOR DISTANCE EDUCATION

by

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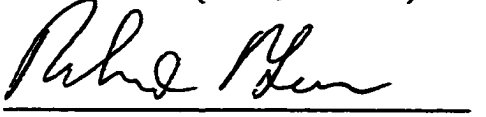

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ABSTRACT

Currently Web-based instruction is one of the fastest growing instructional technologies, particularly at the University level. At the same time, the number of students who choose web-based format of Distance Education (DE) are also growing rapidly. In accordance with that, the necessity to ascertain what motivates students to enroll in this particular mode arises.

The purpose of this investigation was to identify demographic characteristics and the motivational profile of the DE students, as well as to find out what barriers affect the enrollment decision. The subjects for the survey were 240 students enrolled in DE and on-campus studies at the University of Windsor. A 55-item questionnaire was designed in order to identify the motivational factors that influence students' decisions to enroll in Web-Based (WB) courses. The questions focused on students' computer skills, motivational goals for enrollment, and barriers to on-campus learning. Moreover, detailed demographic characteristics (including age, gender, marital status, vocational level, etc.) were obtained from the participants.

The analyses showed that there were eight common motivational factors for enrollment in DE. They were knowledge, personal gains, community goals, social reasons, escape reasons, obligation fulfillment, personal fulfillment, and cultural knowledge. The results also showed there was a difference in motivations for enrollment between DE and on-campus students. Significant differences were evident for personal gains, community goals, social reasons, personal fulfillment, and cultural knowledge with higher ratings for DE students. In regards to the barriers for on-campus studies, MANOVA computed using Age and Learning Format showed no significant interaction effects. However, ANOVA for main effects for Age showed significant difference for Institutional and Dispositional barriers with lower ratings for older students. ANOVA for main effects for the Learning Format showed significant difference for Situational, Institutional, and Dispositional barriers with lower ratings for DE students.

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This thesis is dedicated to my husband whose love, support, and computer expertise in putting together the online questionnaire made the whole thing possible.

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CHAPTER I

INTRODUCTION

General Statement of the Problem

With the development and increased availability of lower-cost personal computers, the use of technology in educational institutions broadened in the early 1980s to encompass the use of general-purpose tools such as word processors and spreadsheets. Technology that allowed classes to be given by remote teachers via two-way audio and video, known as "distance learning," has become widespread. Distance learning programming, transmitted via cables, fiber optics, and satellites, expanded access to instruction for students, particularly for those in remote regions of the nation and in under-served communities.

Research suggests that the number of students who choose distance education are growing constantly. Results of a survey conducted by the National Center for Education Statistics indicated that there were an estimated 1,661,100 enrollments in all distance education courses offered by 2-year and 4-year postsecondary institutions in 1997-98. There were an estimated 1,363,670 enrollments in college-level, credit-granting distance education courses in 1997-98, with most of these (1,082,380) at the undergraduate level. The remaining enrollments (281,300) were at the graduate/first-professional level (Lewis, Snow, & Farris, 1999). In accordance with that, the questions why adults return to school and what factors make them choose distance mode over traditional rise.

Increasing enrollment rates in distance education programs make educators look for optimal ways to successfully accommodate various educational needs of adult

students. Because developmental needs, issues, and stressors for adults differ considerably from those faced by younger, "traditional-age" students, educational institutions have to reconsider (and often reconfigure) all aspects of the college environment, to respond to this growing population. However, it is difficult for educators to design programs and services to meet educational needs and aspirations of adult students, as well as to encourage their academic success without understanding student motivations. It is important to know students' underlying motivations in order to comprehend the full meaning of students' decisions to enroll in college as a step toward achieving their goals.

The purpose of this investigation is to identify the demographic characteristics and the motivational profile of the distance-learning students, as well as to find out what barriers and facilitators affect the enrollment decision.

Definition of Terms

For the purpose of this paper these terms will be defined as:

Adult Learner: An adult who returns to school full- or part-time while maintaining responsibilities such as employment, family, and other responsibilities of adult life (Cross, 1980).

DE Student (Off-campus student): An individual currently enrolled on a full- or part-time basis in Distance education program at the undergraduate level at the University of Windsor.

Distance Education (DE): Situation in which teacher and learner are in physically separated locations and contact between them is mediated by some form of technology,

e.g. print- and mail-based, audio teleconferencing, videoconferencing, and computer-mediated conferencing (Shale & Gomes, 1998).

Nontraditional Student: see Adult Learner

On-Campus Student (Traditional Student): An individual enrolled only in on-campus courses on a full- or part-time basis at the undergraduate level at the University of Windsor.

Virtual University (VU): Institution that offers most or all of its instruction via technological means and is distinguished by its nearly exclusive use of technology as the educational delivery device (Phipps, Wellman, & Merisotis, 1998).

Web-Based Instruction (WBI): An innovative approach for delivering instruction to a remote audience using the World Wide Web as the instructional delivery system (Khan, 1997).

Significance of the Study

Studies on the motivational traits of adult students for enrollment into distance education programs resulted in a variety of findings. No matter what those findings were, each researcher pointed out the value of the results for educational theory and practice and supported the idea that without understanding student motivations, it is difficult for educators to design programs and services to meet the educational needs and aspirations of distance education students and encourage their academic success.

This study is aimed at identifying the demographic characteristics and the motivational profile of the distance-learning students, as well as attempting to find out what barriers and facilitators affect the enrollment decision. It is hoped that this research study will show that without knowledge of the various underlying motivations, it is not

possible to comprehend the full meaning of students' decisions to enroll in college as a step toward achieving their goals.

The results of the investigation could be used to develop and improve methods of instruction in distance education institutions according to the information received on the main reasons behind the decision to enroll. They could also act as a guide for determining areas, which need improvement and areas in which students are currently satisfied. It is essential that university professors are aware of the variables, which can positively or negatively affect student performance. The results of the study could improve decision-making regarding students' learning experiences.

The study makes an attempt to illustrate the value of interpreting students' primary goals and underlying motivations within the context of their life circumstances. Without understanding students' backgrounds, previous educational experience, life transitions, level of self-confidence, perceptions of academic capabilities, fears, and aspirations, it is difficult to identify the learning activities and students support services that are crucial to success.

The results demonstrate that students not only enroll for diverse reasons, they come to college with a range of educational backgrounds. It is essential to respond to this diversity with various types of educational programs. Once the needs and interests of adults are tapped, educators can anticipate that the demand for further education will increase and the students' interests will continue to expand. The study tries to prove that distance education could be a cost-effective way to provide the range of curricula necessary to meet the diverse needs of a geographically dispersed adult population.

The study makes a case for using research results to guide future applications in this area, and for pursuing additional research to address still unanswered questions.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Evidence suggests that distance education is becoming an increasingly visible feature of postsecondary education in North America. The US Department of Education pegged the growth of distance education in the institutions of higher education at well over 70% between 1997 and 1998 (Lewis, Snow, & Farris, 1999). National Center for Education Statistics estimated there were 14 to 70 million adult learners involved in some form of continuing education. Nando.net reported that in 1997, 390 U.S. universities offered classes online. In 1999, the number increased to 798 schools (an increase of 408 universities).

Saba (1999) suggested that fast adoption of distance education was driven by social change more than any other factor. According to the researcher, establishment of the Open University in Great Britain, in 1971 was a direct response to an increased demand for alternative means of access to higher education. Today, higher education is a necessity for those who wish to work and prosper in an economy that is becoming dependant not on sheer muscle power, but on brainpower. The workforce is rewarded for how well and how fast problems are detected and solved.

Sherron and Boettcher (1997) believed that the main reasons behind a fast implementation of distance education included the convergence of communication and computing technologies, the changing demographics of students pursuing postsecondary education, and the need to reduce the cost of education. It was also suggested that the

primary benefits of implementing distance education programs for higher educational institutions included the potential to increase enrollments of nontraditional students and to reduce program costs (Willis, 1995).

Sherron and Boettcher (1997) also suggested that the benefits of implementing distance education programs also accrued to students. The primary benefit of distance education, according to the researchers, was its potential to provide access to postsecondary education where otherwise it was not available, due to such constraints as geography, time, job and family responsibilities, or finances.

Distance Education

Delivery of Distance Education

The research suggests that the development of technologies employed to provide distance education came from a complex relationship between providers and the public. Technological advances created awareness and demand among users, while usage pushed providers to further develop technologies (Lewis, Snow, & Farris, 1999). Sherron and Boettcher (1997) believed that these advances produced over the years four different generations of distance education technology. These four generations were described as follows:

1. The first-generation distance education technologies (print, radio, and television) were used in the early and mid-20th century and were characterized as one-way narrowband communication. These technologies were best used to transfer information primarily from faculty to student. This delivery mode did not typically incorporate any interaction among students and only supported minimal interaction between students and faculty.

2. The second-generation technologies (VCR and cable television) emerged by 1960. They enabled 'timeshifting' of the broadcast portion of distance education courses, as well as an alternative of bypassing the broadcast completely by making the content of courses available on videotapes that could be sent to students and viewed at any time. These technologies allowed little interaction among students and between students and faculty.
3. The third-generation technologies (first represented by a personal computer) appeared in the mid-1980s. Personal computers were followed by two-way conferencing and the Internet. The third-generation of distance education technologies allowed faculty to convey increasingly complex and large amounts of information to students and enabled interaction among students and faculty through the use of electronic mail, chat rooms, and bulletin boards.
4. The fourth-generation of distance education technologies represents still another advance. Interactivity among students and between students and faculty is increased, and the amount and types of information that can be exchanged are significantly greater and take significantly less time to occur. Currently, distance education incorporates a number of technologies, spanning second, third, and fourth generations.

Organization of Distance Education

Lewis, Snow, and Farris's (1999) report suggested that new generations of distance education technologies brought pressure on higher education institutions to consider their position in an even broader national and international distance education marketplace, thereby fostering innovations in institution-to-institution relationships.

Phipps, Wellman, and Merisotis (1998) identified four basic types of organizational arrangements employed by institutions that provide distance education:

- *Enhancements to traditional campus-based instruction.* This is the most prevalent form of distance education. In this type of arrangement, students are regularly matriculated, enrolled in the usual courses, taught by the same faculty, and are generally on campus all or most of the time they are studying. The instruction can be offered through off-campus centers as well as on campus. The difference is that distance education students are not in the same location as their instructors. Distance education might be particularly beneficial to students who live off campus or work full- or part-time.
- *Consortia or collaboratives.* This form of distance education represents cooperative pooling and sharing arrangements among institutions (typically traditional colleges and universities). In these arrangements, multiple institutions join together to provide distance education on a statewide or regional basis. The authority to award degrees and credits, however, remains with each member institution and does not shift to the consortium.
- *Contracted or brokered arrangements.* These are configurations of institutions, faculty, or other providers brought together only for the purpose of delivering distance education. In contrast to consortia or collaboratives, the authority to award degrees and credits rests with the contracting or organizing entity, not with the originating institution.

- *Virtual Universities.* These are institutions that offer most or all of their instruction via technological means and are distinguished by their nearly exclusive use of technology as the educational delivery device.

The Virtual University is a new term that has recently emerged in distance education literature. Thompson (1999) defined a virtual university as a consortium or an aggregate of existing universities. In the consortium model, participating universities establish an online catalog, or a virtual catalog of existing courses. They also agree to accept credit from each other. New Jersey Virtual University is an example of a consortium of existing institutions. In the aggregate model, a new degree granting authority is established, in which existing universities participate. Students can take courses from participating universities, and accumulate credit towards a virtual university degree. Western Governors University is example of a new degree granting institution.

The creation of the virtual class was advocated by Tiffin and Rajasingham (1995). They suggested that it would have its technological basis in cyberspace rather than in a classroom on campus. The researchers offered detailed blueprints of the hardware and the software needed to shift learning from the classroom into other educational spaces, such as home and the workplace. Their approach was based on a deep respect for the classroom as a fundamental context for teaching and learning. Tiffin and Rajasingham offered a comprehensive discussion of the possibilities of employing the new communications and computer technologies in education. The researchers made an attempt to present models of education that would be possible by the beginning of the twenty-first century. Tiffin and Rajasingham expressed the conventional judgment about

distance education, describing it as a second-class education that was good only for people on the periphery of society. The main weakness of distance education, according to the researchers, was its lack of interactivity. At the same time, Tiffin and Rajasingham pointed out that distance educators started to adopt telecommunications technologies to improve their interaction and they were more aware of technological changes than classroom-based educators.

Porter (1997) suggested that a virtual classroom should be arranged similar to a real classroom. According to the researcher, an effective virtual classroom did the following:

- It provided the tools that learners needed when they needed them.
- It created an expectation for and an environment conducive to learning.
- It brought together educators/trainers and learners to share information and exchange ideas.
- It allowed learners the freedom to experiment, test their knowledge, practice completing tasks, and apply what they had discussed or read about.
- It provided mechanisms for evaluating performance.
- It provided a safe haven in which learning could take place.

What is Virtual University?

Virtual University (VU) is the world's largest online learning community, serving 500,000 students and alumni in 128 countries. VU has been hosting distance-learning programs on the Internet and by touchtone phone since 1981. Class discussion is an important ingredient in the recipe for online learning. At VU, discussion occurs on the classroom bulletin board. Each classroom has its own bulletin board. Participation in

class discussion allows students to share ideas and resources with classmates, which in turn, will enrich their online experience and broaden their knowledge. Some weekly lessons might include homework. The assignments are strictly optional and are designed to give students a better understanding of the course material. Students are encouraged to complete these learning exercises as their time permits. Some instructors may hold "real time" chats to answer students' questions. Attendance at these meetings is optional and students are not disadvantaged in any way if they do not attend. The main idea behind virtual learning is convenience: students can work from their home or office at any time of the day or night, do homework in their spare time, and study at their own pace. However, online learning requires self-discipline and a desire to succeed.

Virtual-U is an exciting state-of-the-art technology for online course delivery. Virtual-U is being tested in many institutions across Canada and abroad, involving over 150 instructors. More than 230 courses from over 30 disciplines of all fields of knowledge have already been delivered using the software. Conceptualized by Harasim and Calvert, the Virtual-U Research Project was developed at Simon Fraser University as part of the unique Canadian TeleLearning – Network of Centers of Excellence. The goals of the Virtual-U Project are to collaboratively build state-of-the-art software for online course delivery and put Canada at the forefront of global education. According to Harasim (1999a), collaborative learning is an interactive group knowledge-building process. Students actively participate in generating, accessing, and organizing the information. They construct knowledge by formulating their ideas into words and images and then develop these ideas/concepts as they react to other students' responses to their formulations. Knowledge building is the process of progressive problem solving, which

encourages students to be innovative, create intellectual property, and develop and acquire expertise (Harasim, 1990).

Harasim (1999a) defined VU as a web-based networked learning environment customized for postsecondary and/or workplace education. It is an integrated course management system with conferencing, chat, and grade book tools that provides a framework for designing, delivering, and managing individual courses or entire programs. VU also supports all types of multimedia files as course resources, allowing the instructional designer to determine course content. Using standard web server technology, VU can also support multimedia applications, such as movies. These features make VU extremely flexible and enable it to host specialized courses.

VU field trials began in 1996 with seven field sites across Canada and 24 courses (Harasim, 1999a). Researchers gathered data from more than 8,000 students in 300 courses taught by 250 instructors. Of this group, only 4% of the courses used VU as an enhancement. Thirty percent of the courses were delivered totally online, and 66% used a mixed mode that employed an array of strategies to deliver an appropriate mix of face-to-face and online instruction. The VU field trials generated data on instructional design, impact on instructor and student workload, user satisfaction and practice, quality of learning, assessment issues, and student completion rates. The findings provided significant guidance in the design and implementation of more effective online education models and environments. It was found that instructors and students became more interactive when they moved from the one-to-many lecture model to the many-to-many group discourse model. The major problems students encountered were not related to

their workload but rather to technical difficulties and slow networks. Many also initially experienced communication anxiety.

Analysis of usage patterns revealed the following facts: 1) Participation in an online or mixed-mode course was 7x 24 (seven days a week, 24 hours a day). 2) Students were typically very active in posting, reading, and responding to messages. They logged in a minimum of five times per week and posted or responded to messages a minimum of three times per week. 3) Peer interaction was typically high. Data were mode dependent, varying according to the total number of messages posted or read per semester or module, but in some cases the response rate was as high as 80%. 4) In face-to-face classes, instructors spoke for approximately 80% or more of the time. Online, students sent about 85% of messages. 5) The spread of communications among students varied.

Harasim (1999b) reported on quantitative and qualitative data collected from the Canadian sites offering VU courses from September 1996 to May 1999. Four principal data sources comprised the research design of the Virtual University field trials:

1. Data analysis of Virtual-U usage statistics and conference headers;
2. Analysis of Virtual-U transcripts;
3. Interviews with learners and instructors;
4. Questionnaires with learners and instructors.

Data on mode delivery collected from 240 Virtual-U courses indicated 26% totally online mode, 71% mixed mode, 3% enhanced mode. According to Harasim (1999b), this finding illuminated new trends in educational applications of the web as well as how online environments that were specifically customized to support educational activities shaped usage of the WWW, unlike general educational use of the WWW. General educational

adoption of the WWW was characterized predominantly by enhanced mode, in which students used the web for surfing and information seeking to supplement classroom instruction. On the other hand, the Virtual-U field trials were distinguished by formal learning application of the web for totally or significant (mixed mode) delivery and enhanced mode was a small portion of the usage.

The research showed that almost all disciplines were represented in the Virtual-U field trials, indicating the tremendous expansion of online post-secondary course delivery since the early days of online education which could support only discourse-based disciplines (e.g., education, social sciences and the humanities). The findings showed that 100% of Virtual-U courses incorporated some level of collaborative learning approaches (discussion, group projects, debates, etc.). This educational phenomenon was clearly distinct from traditional face-to-face undergraduate lectures or even classroom methods.

Harasim (1999b) found that the impact of Virtual-U on learning was positive. Several instructors reported that students learned more in online than in face-to-face classes; assignments were better, there were more reflective discourse online and more student initiative, grades were higher online than face-to-face. Learning together resulted in more reflective assignments: students grasped more concepts, showed more in-depth knowledge, and enhanced learning by engaging in deeper and more meaningful analyses and discussions in the conferences. Student ability to articulate ideas showed considerable growth. Students showed a distinct improvement in the quality of written contributions, producing texts in a more extensive, reflective and literate manner than in traditional face-to-face courses. Students demonstrated engagement, motivation, active involvement with collaborative learning and knowledge building, and appreciation for

Virtual-U. In some disciplines, students achieved better grades than in the face-to-face counterparts.

The research showed that over 7,000 students used the VU software. Questionnaire data indicated that most students (84%) were satisfied with online education. Seventy-seven percent of males and 81% of females reported a positive experience with VU. Overall students liked VU, noting that they received better peer interaction and communication, saved money and time, and had a greater control and management of time.

Based on the research findings, Harasim (1999b) came to the following conclusions:

1. Online education could be as or more effective than face-to-face (comparably low drop out, high user satisfaction, superior in terms of enhanced learning processes and outcomes).
2. Online courses challenged the way students learn in terms of learning habits in active and collaborative learning environments such as Virtual-U.
3. Virtual-U provided an environment for learners to work toward knowledge goals. By giving learners opportunities to participate equally and be aware of their own and others' contributions to achieving goals, they became motivated by their own learning and their own contribution to the advancement of the group. This was a shift from working in a more traditional classroom environment where artificial motivational factors such as grades were prevalent.

Interactivity in Web-Based Courses

One of the most important issues within the context of higher education is the design of World Wide Web courses that would be as successful at fostering student learning and interactivity as are classroom teaching techniques used in on-campus instruction. A common definition of interactivity in computer-mediated teaching is that it occurs when the learner actively adapts to the information presented by technology, which in turn adapts to the learner, a process more commonly referred to as feedback (Weller, 1988). Many researchers display concern about the ability of Web-based (WB) instruction to provide two categories of interactivity –social and instructional- that are perceived to be common in face-to-face instruction courses (Gilbert & Moore, 1998):

- *Social interactivity*: Skeptical faculty and students often appear to assume that electronic forms of instruction, including web courses, are unable to duplicate the perceived social and organizational attributes of face-to-face instruction. Common complaints of distance education teachers include such comments as "I need to see their faces," or "It's hard to deal with handouts and assignments." Supporters of electronic distance learning technologies name the communication capabilities inherent in technologies such as two-way video and e-mail as examples of ways to make such social interactivity possible.
- *Instructional Interactivity*: Skeptical faculty and students may also comment that course delivery over the WWW cannot duplicate the adaptive interaction with instructional content that a good teacher can encourage during face-to-face instruction. They assume that the immediate feedback, questioning, control of pacing, sequencing, and other interactive controls available in the live classroom

either will not be available or will be less effective under computer-mediated instruction, since the teacher is not present to control the complexities of such interaction.

Gilbert and Moore (1998) believed that sorting out such discussions of the concept of "interactivity" was made difficult by the lack of clarity in the concept itself. The researchers summarized many of the features commonly included in definitions of interactivity and came up with the following (See Figure 1):

Figure 1
Characteristics of Social And Instructional Interactivity

Social Interactivity

Types of Activity	*Characteristics*	Examples of Technology
Body language Greetings socializing Exchanging personal information Scheduling Logistics (e.g. handouts) Class management	Usually real time (Synchronous) Immediacy of interaction Interruptible Usually bi-directional Alternation of turns Mutuality Learner control usually present Can be: Teacher to student Student to teacher Student to student Group whole-class	Face-to-face contact via audio and/or video Email Online chat Electronic bulletin boards Moderated discussion Calendaring programs Message replication Work flow control Real-time electronic Discussion Shared whiteboard

(Continued over)

Figure 1 (continued)

Instructional Interactivity

Types of Activity	*Characteristics*	Examples of Technology
Communication of content	Goal/criterion directed	Shared whiteboard
Setting objectives	Variable teacher directivity	Computer application
Questioning	Variable learner control	Sharing
Answering		Lecture
Exchanging information	Control of sequence	Information query
Pacing	Control of pace	Responding to query
Sequencing	Availability of inquiry options	File distribution
Branching		
Adapting	Evaluation of responses	Replication and revision
Evaluating	Synchronous or asynchronous	Database storage in Access
Individualizing		
Handling responses	Immediacy vs. delay	Database search
Confirmation of learning	Variable bi-directionality	Monitoring responses
Controlling navigation	Variable individualization	Proctoring correct answers
Elaboration	Man or machine provided	Testing to criterion

The researchers suggested that social interaction between students and teachers and between students and students could sometimes have little to do with instructional learning, but could still help to create a positive (or a negative) learning environment. Other types of social interaction do not relate directly to instructional attributes, but still provide feedback to and from students about progress toward instructional objectives. For example, a teacher can visually observe body language to see if the students are attentive or inattentive to a class lecture. Students can also tell if the instructor is satisfied with the responses from the class by observing teacher body language.

Gilbert and Moore (1998) concluded that the range of social interactivity tends to be constrained by social convention. For example, when a student spoke directly with a faculty member in face-to-face conversation, a direct, polite, and immediate response was expected. The student might feel constrained both in the type of questions asked and

in the formality of address used. Social interaction tends to have elements of mutuality, flexibility, and bi-directionality.

According to the information presented in the "instructional interactivity" table, highlight factors related to both teacher control of content delivery and learner control of processes that related to the presentation of and response to instructional content. Each of the instructional interactivity factors could be defined along a continuum.

The issue of interactivity is addressed to a different extent in a number of studies on Web-based instruction (WBI). The purpose of the investigation conducted by Daugherty and Funke (1998) was to examine perspectives of university students involved in one medium of distance education, Web-based instruction. Students were surveyed on the advantages, disadvantages, and general effectiveness of using the Internet as a teaching and learning tool. The researchers strongly believed that the Web could provide a wealth of information to students that was not really available in textbooks or faculty lectures. Students could access information and resources from around the world simply by having a computer with an Internet connection. The information was usually current, presented in meaningful contexts, and afforded students the opportunity to explore more widely a topic, interest, or fact. In addition, WBI could be interactive and collaborative in nature resulting in creating a global community. Through e-mail, listservs, conferencing tools, and newsgroups a 'virtual community of learners' could exchange knowledge, ideas, and perspectives.

Nineteen graduate and 36 undergraduate students enrolled in WBI coursework participated in the study. Technology was defined for them as computer skills or experience with electronic media, tools, software, and use of the Internet. Twenty percent

of the class had little or no experience with using technology prior to enrolling in the course. Fifty percent of the students had moderate experience, whereas 30% characterized their previous experience as extensive. Survey questions covered numerous topics and issues related to Web-based course instruction and learning. Items ranged from the educational benefits of WBI to attitudinal perspectives of incorporating technology into coursework. Student participants were asked to make comparison between traditional instruction and WBI, to identify significant learning experiences, and to rate WBI according to difficulty with traditional classroom activities. Survey items also invited comments on their favorite and least favorite Web-related activities. Students were asked to identify their attitudes toward using technology and to indicate if their attitudes changed as a result of completing Web-based assignments. Content for the class was organized into 15 units with numerous Internet links providing supplemental information throughout the course content. Student requirements included exercises and assignments at the conclusion of each unit and a formal paper that reviewed current research on a topic of interest. Students were also asked to complete a response journal via e-mail to the instructor periodically throughout the course. The journal required students to analyze and evaluate their work and the processes and skills they used to complete assignments. Communication with the instructor and classmates was achieved through e-mail, chat rooms, and listservs. Web-based class assignments required students to access numerous health-related websites and answer specific questions, perform various tasks such as using search engines, explore sections of websites and write their reaction. One sample activity included visiting sites that discussed the issue of freedom of speech on the

WWW as applied to sexually related material. Students were to read opinions on both sides of the issue and then formulate and write their own opinion.

Findings indicated that the student benefits included (a) meaningful learning of technology through the integration of course content and computer applications, (b) increased access to the most current and global content information available, (c) increased motivation, and (d) convenience. Most students acknowledged the utility of the World Wide Web as a current and extensive source of information and one that was relatively easy to access. Students referred to the "discovery" of learning through the Internet compared with traditional classroom domains. Several students expanded on the limitation of knowledge in a typical college course constrained by textbooks and lecture, and remarked that the Internet was a source of information previously unimagined. For example, graduate students commented on the availability and value resources that directly related to their teaching profession. WWW links that supported content in the course connected them to relevant events and issues addressed by educators involved in action research and experts in the field of education. Undergraduate students noted that they were given access to references that illustrated and extended classroom discussions. Students appeared genuinely impressed by the variety and quality of learning materials offered via the Web. Data also revealed that students' motivation to learn was stimulated as a result of the increased interest in sources on the Web. This was supported earlier in research conducted by Kearsley (1996). Students also gave evidence that access to meaningful resources fostered critical thinking skills and allowed them to see new ways of interpreting and evaluating information. For example, several students acknowledged

that gathering viewpoints and knowledge at Internet sites caused them to debate previously held values and ideas.

Illustration of analytical thinking was apparent when students consistently cited that they had been unable to relate educational research to the practicality of day-to-day teaching until they had engaged with Internet-published action research projects conducted by teachers in the field. Students learned how to make a connection between research findings, trends in education, and actually completing research daily in a classroom. One of the most interesting patterns found in the data was noted when students were asked to identify and rate the three most important pieces of information that the Internet-based assignments had taught them. Across all responses, the strongest learning experiences were related to technology, with content related knowledge demonstrating a secondary but supportive role. Students repeatedly rated some aspect of computer applications as the number one educational experience associated with the activities they had completed. Some of the most frequently mentioned responses were (a) learning to navigate and use the Web successfully, (b) to apply computer skills, and (c) to use conferencing tools such as e-mail and listservs. These findings revealed that students gained competence with technology and that their newfound capabilities were important to them.

Another important issue addressed in the study by Daugherty and Funke (1998) was interactivity between students and instructor with Internet-based coursework. Sixty three percent of the graduate students and 53% of the undergraduate students were positive about the degree and quality of communication among classmates and with instructors while participating in online activities. Seventy seven percent of the students

said that technological aspects of course assignments encouraged cooperative dialogues rather than isolation. Students reported that e-mail and listservs were used regularly, without reservation, and that these tools provided a valuable resource for support and collaboration among classmates. Survey responses showed that the students communicated with classmates for help in completing assignments, support with technology frustrations, and to share acquired skills or content resources. Students also remarked on the utility of e-mail, stating that it had many assets that face-to-face classroom contact lacked. One student elaborated on this point by stating that when she had a question, she did not have to wait until class time as in traditional instruction. She just had to send an e-mail. Several students mentioned that they were comfortable communicating through the format of e-mail and listservs, especially those students who were shy and normally would never ask a question in class or participate in class discussions. E-mail gave them freedom to do this.

These positive aspects of WBI were countered with some frustrations expressed by students. According to survey responses, 13% of undergraduate students and 26% of graduate students experienced such problems as the server being down, difficulty accessing a computer, and a lack of skills in using technology. Some students who completed assignments in university computer labs were also discouraged with older computers and lack of technical and instructional support. Consequently, these respondents noted that the required assignments were time-consuming. Students with personal home computers also commented that initial encounters with completing activities were lengthy. Mastering computer application tools and learning to navigate the Web efficiently commanded the most time. The graduate student sample also commented

that they liked the self-paced nature of participating in Web-based instruction. One of the students said that Web-based format did well for self-motivated, mature students. It allowed students to work any place, any time, and with any schedule.

Kubala (1998) studied students' attitudes towards online instruction. The researcher designed and taught two online graduate courses that dealt with the community college. The design did not require any attendance of campus classes. In order to keep students on-track and up to date, Kubala used weekly quizzes as learning tools. During the semester, a quiz was posted each week on the reading assignments, and students were asked to respond by a specific date. If an answer was incorrect, the researcher communicated with the student by e-mail, and the student was asked to respond with the correct answer. Occasionally, lessons were e-mailed to expand upon the readings, or a provocative question was posted in the Course Forum to elicit student thought, analysis and reaction. Kubala's belief was that students must be challenged to use their higher cognitive skills to research, solve problems and inquire about their answers to course materials and posted questions.

The Course Forum was also used by students in the course to raise questions on current events, course materials or Internet findings so that everyone had an opportunity to expand their levels of knowledge. The Forum was a part of the course materials where students and the researcher himself could post questions and seek answers to items of course content. Internet searches were used to respond to research topics, and for the papers that had to be written as part of the course requirements.

Each course ended with a final exam. This exam was a paper and pencil test taken on campus or at a distance. If it was taken at a distance, a proctor was selected at a

community college testing center that was near the student's home. There was also a course evaluation that took place. Students completed an evaluation instrument that was part of the course materials. The evaluation was completed electronically and anonymously, then automatically transmitted to an administrative office on campus.

Results of the survey were the following: All respondents said that Web-based courses met their learning needs. All respondents said they would recommend these types of distance learning courses to their friends. Other results:

- Ninety-four percent of the students said they felt adequately connected to the instructor -- more connected or similarly connected as compared with traditional face-to-face classes.
- Eighty-one percent of the students said they preferred taking Web-based courses.
- Nineteen percent said they would like to try a combination of Web-based and traditional formats.

Findings also showed that what students liked most about the courses was their flexibility and convenience. The students also mentioned high level of communication with the professor compared to the one in a traditional format.

Although the overwhelming response to these courses was positive, there were a few concerns as well. The most commonly mentioned difficulty was the one of dealing with technology. Students had problems with their Internet provider: they could not get on when they needed to. There was initial frustration in learning how to access everything. In general, the research showed that students found the Internet to be a friendlier environment than anticipated, although some technical glitches did occur at the

beginning of each course. Nevertheless, most said they wanted to take all their graduate courses online.

One of the conclusions drawn by Kubala (1998) from the research was that online instruction on the Internet was in many ways a form of individualized instruction. It required regular contact between the student and the instructor for maximum learning to occur. The researcher found that students were more willing to participate in class "discussions" and other learning activities online as compared to the traditional mode of learning. There was a measure of anonymity that served as a motivator for students to get involved. People felt more empowered. They were daring and confrontational regarding the expression of ideas.

Kanuka and Anderson (1998) focused their study on online forums (computer-mediated conferences). The online forum, according to the researchers, represented a complex learning environment in which group collaboration was practiced in a technologically mediated environment. The resulting interaction between individuals using different learning theories, styles and activities, and technologies led to the creation of vibrant communities of learners. Kanuka and Anderson used a constructivist interaction analysis model developed by Gunawardena, Lowe, and Anderson (1997) to help understand and assess online learning. The model described the phases that were attributed to learning development in an online forum.

The researchers analyzed the data obtained from participants in the online forum. They read postings, but did not participate in the forum. At the end of the two-week forum, an online survey was distributed to all participants and a transcript analysis was

performed. The researchers also conducted a telephone survey with a stratified sample of participants.

The online survey was completed by eleven of sixteen active participants, which corresponded to a return rate of 69%. The questions asked participants to indicate their agreement with statements related to three areas of investigation: construction of knowledge, creation of learning communities, and technical issues.

The first part of the online survey related to the perceptions of the learning environment by participants during the online forum. The responses indicated that the forum was perceived by the participants as successful in providing opportunities for reflection and exposure to multiple perspectives on topics that were relevant to the participants. There seemed less agreement, however, with the notion that the forum provided opportunity for application of new knowledge and deeper understanding of the issues.

The open-ended questions in the survey provided the respondents with an opportunity to make general comments, suggestions, complaints, and compliments related to the forum experience. One theme that emerged was the value of finding out what others were doing, making contacts, and other functions normally associated with face-to-face conferences and meeting. A second theme was a sense of disassociation with other forum members. Participants complained that they could not always relate to each other and did not discover similar experiences. According to Kanuka and Anderson (1998) these comments reflected a perceived lack of community caused by the low social presence engendered by only three weeks of interaction in a text-based environment.

The online survey was followed by a telephone interview with seven participants. All of the participants acknowledged that the forum was of value. Responses included sharing of ideas, flexibility, ability to discuss with peers and discover what others were doing, and not being forced to listen to everyone's comments as in face-to-face settings.

Analysis of the transcripts revealed that most of the online interactions during the forum were at the lower phases of the interaction analysis model, i.e., sharing and comparing of information. The results of the study also illustrated that there were many types of structures, motivations, and applications of online interaction.

Andrusyszyn and Davie (1997) conducted a qualitative study where they examined the reflections of students who engaged in interactive reflective journal writing with an online instructor. This strategy was purposefully integrated into the design of a graduate level computer-mediated course. Limited literature is available on the use of journal writing in the computer conference medium. Kelly (1989) used electronic journals to teach language arts and keyboarding to adult learners. The journals were not graded and were used as a means to gain insight into growth and change over time. Lauzon (1991) used electronic journal writing in third and fourth year undergraduate courses. Weekly journals were submitted to a private online conference, and Lauzon offered immediate feedback on the entries. The researcher's aim was to help students begin to explore connections between course content and their communication skills. Lauzon stated that the journal gave people a forum to deal with their own personal issues as they relate to interpersonal communications. It also allowed students to reflect and connect. This method of learning was effective and overall student feedback on journal writing was favorable. As with any method, some students never developed comfort with

the strategy. Lauzon found that journal writing allowed him to establish a closer relationship with students.

The participants of Andrusyszyn and Davie's (1997) study were one instructor and five graduate students from a Canadian university. They were contacted by electronic mail. Data collection was completely electronic. The data set consisted of 161 separate journal entries written by the students to the instructor and 42 responses back from the instructor. Participants were also engaged in asynchronous online interviews. Three themes emerged from the data. The first theme, personal process, captured individual participants' approaches to reflection. Synthesis described the way in which participants engaged in the construction of knowledge. The third theme, dialog, focused on the nature of the communication in which participants engaged in an effort to promote the social construction of knowledge. The finding suggested that the process of reflection might be actively facilitated through interactive journal writing. The personal learning process stimulated through dialog with oneself or with one's instructor overtime arises from the cognitive and affective synthesis of shared thoughts and the meaning ascribed to these thoughts. Journal strategies have successfully been applied in traditional learning environments and should be carefully considered in computer-mediated arenas.

Distance Learning Student

Adult Learner Characteristics

According to Wallace (1996), the flexibility that distance education offers in terms of where and when students learn has been particularly advantageous to two groups of students: a) those who live at a geographic distance from the university, and b) those who are fully employed (either at home or in the workplace) and who must pursue a

university education on a part-time basis. Because the fully employed tend to be older individuals, distance education has provided access for many adults who are unable to attend scheduled classes on campus. Hence, enrollment in distance education has traditionally been heavily adult. Wallace suggested that distance education became closely associated with adult education as a consequence of this history. USA Today (1999) found that five of every 11 students attending U.S. colleges and universities were 25 or older. They also predicted that the number of college students 35 and older would exceed the number of 18- and 19-year-old students in this decade.

Despite the wide variation in the characteristics of the adult learners that exist in educational literature, it is still possible to identify some of the most common ones. Rogers (1989) selected seven characteristics that seemed to be true of the large majority of adult learners. These characteristics are the following:

1. *The students are adult by definition.* The most visible way in which the adult learners exercise their adulthood in relation to distance education programs is by voluntarily choosing to take classes. Adult student participants are not dependent in the way children are.
2. *The students are all engaged in a continuing process of growth.* Growth and change occur in all aspects of students' life- in the physical arena, in the intellectual sphere, in the emotional, in the world of relationships, and in the pattern of cultural interests.
3. *The students bring a package of experience and values.* New students are not new people. They possess a set of values, established prejudices and attitudes in which they have a great deal of emotional investment based on their past experience.

4. *The students usually come to education with set intentions.* There are two extremes to the spectrum of adult student intentions: those who take the distance program to achieve a particular piece of learning related to their present pattern of life, and those who take it for social and/or personal reasons or out of some general sense of urgency. In the middle are those students who come to learn a subject.
5. *The students bring certain expectations about education itself.* A number of students may assume that distance education is like school. They expect to be taught and supervised be a teacher. On the other hand, some are more confident, willing to engage for themselves directly with the material being handled.
6. *The students have competing interests.* Most adult learners are part-time students. Education for them is a matter of secondary interest; it is not their prime concern. It is constantly overshadowed by the realities of life: their job or lack of job, their family situation, their social life, and other competing issues. Adult learners continue to live within their world and to apply what they learn in that world.
7. *The students possess set patterns of learning.* Adults are engaged in a continuing process of lifelong learning, and they have already acquired ways of coping with this. Over the years, each of the adult students has developed their own strategies and pattern of learning, which they have found help them to learn most easily, most quickly and most effectively.

Cranton (1989) described the most common characteristics of the adult learner:

- Adults usually choose to learn. This means that the adult will expect that the instructional situation will be relevant to their needs.

- Adults enter the learning situation with a variety of life experiences. Learning is facilitated when the instruction is related to these experiences.
- Most adults have concrete and immediate learning goals. They know what is important to them and are frustrated when others impose their ideas of what is important.
- Usually adults prefer to be self-directed even though they may demonstrate dependent behaviors in a classroom or formal setting.
- Adults are different from each other and the general characteristics of adults may not all apply to individuals.

Benshoff and Lewis's (1992) research study of nontraditional students suggested a number of factors that characteristically separated nontraditional students from younger college students. Adult learners tended to be achievement oriented, highly motivated, and relatively independent with special needs for flexible schedules and instruction appropriate for their developmental level. Adults generally preferred more active approaches to learning and value opportunities to integrate academic learning with their life and work experiences. Financial and family concerns were two of the biggest considerations that impact on the adult student experience.

The research shows that learners who participate in distance learning programs have a variety of educational needs. Some may be interested in a one-time course, others may want to complete a degree program or meet long-term educational requirements, such as those for certification. Adult learners may work part time or full time or they may be currently un- or underemployed and want to develop more marketable skills. Adult learners may need specialized training to keep up with current job demands or they may

be looking for more general education. Their motivations range from personal interests to job pressures (Porter, 1997). Willis (1993) suggested that adult students deciding whether to take a distance-delivered course might also be interested in the relevance of the content, the appropriateness of the course in meeting some long-term goals, and the effectiveness of the instructor.

Rossman's (1993) research study of adult distance education students found that students who took online courses were initially not the typical older adolescents who spent four years on a residential campus. They tended to be older and self-disciplined and were likely to have good verbal skills. Research found that more than half of the students enrolled in distance education courses already had some college education and eight out of ten were seeking to complete or accelerate undergraduate education. Two-thirds were females. According to the researcher some of them wanted to take their courses at home because they had small children and could not find or afford adequate childcare. Less than a quarter of them were traditional college age, and half were thirty or older. Eight out of ten did all their class work and study at home. Two-thirds were married or divorced, half had at least one dependent.

Adult learners also represent a variety of learning styles. Over thirty of those styles have been catalogued. An example would be the difference between those who learn better with some background noise and those who learn better in quiet conditions. Individuals also differ in the kind of light conditions, temperature conditions, bodily positions, food intake and type of companions needed for efficient learning. Bio-chronology is another factor. Some people are early-day learners and some are late-day or even evening/night learners. Some are impulsive learners and others are reflective. Some

may find that traditional educational methods, such as lecture and discussion, are not the best ways to help them learn (Meighan, 1996).

The interactive capabilities of some distance learning technologies, especially those available through the Internet may be more attractive to adults. Because distance learning usually involves multiple media to present course information, adults may like distance-learning courses better than traditional classroom-based courses or in-house training sessions conducted in a lab. The research shows that the most successful distance learners are self-motivated. They want to learn and they make sure they participate fully in the course. Distance education, according to the researchers, allows maximum freedom for using preferred learning styles.

The Distance Learner's Motivation

Educational literature usually defines motivation as those factors that energize and direct behavioral patterns organized around the goal. It is frequently seen as a force within the individual that moves him or her to act in a certain way. Motivation in education is the compulsion that keeps a person within a learning situation and encourages him or her to learn (Rogers, 1989).

Marzotto (1984) defined distance learner's motivation as a drive that incited a person to take some action, an action with a purpose or goal that was manifested in terms of a need. People are motivated to take action to satisfy needs.

Some researchers distinguished between needs (seen to be physical) and drives (psychological). More often, however, a distinction was drawn between primary need (related to bodily functions, called viscerogenic) and secondary need (psychogenic). Maslow (1954) offered a theory of human motivation based of hierarchy of needs. The

needs at the lowest level of hierarchy were described as physiological. Those could be hunger and thirst. Satisfaction of physiological needs is of preeminent importance. A starving person will find little reason to satisfy higher level social needs. On the other hand, a satisfied need is not a motivator. A person who eats regularly and adequately ceases to find food an important need. A new need will replace physiological needs when these are satisfied.

Safety is the next level in Maslow's hierarchy of needs. This is the need for protection against danger, threat and deprivation. Social needs begin to dominate human behavior when safety needs are met. Social needs include the need for belonging, for association, for acceptance and for giving and receiving friendships and love. The educational system is one of the agencies that facilitates the satisfaction of many social needs. It provides the opportunity for association (Marzotto, 1984).

Ego needs, the next level of Maslow's hierarchy, can be of two kinds. First, there are the needs that relate to one's self-esteem: need for self-confidence, for independence, for achievement, for competence, and for knowledge. Second are the needs that relate to one's reputation, need for status, for recognition, for appreciation, and for the respect of others. Ego needs, unlike the lower level needs, are rarely totally satisfied. The human condition seeks indefinitely for more satisfaction of these needs once they have surfaced as important.

At the highest level of human needs, Maslow (1954) describes the need for self-actualization. This need manifests itself in a desire for self-fulfillment, for becoming what one had the potential to become. Maslow concluded that even though all the needs were

hierarchical, people who were normal were partially satisfied in all their basic needs and partially unsatisfied in all their basic needs at the same time.

Reasons for Learning

The question of why adults engage in educational activities is simple and complex at the same time. Many adults, as research shows, engage in education that is work-related and many others in courses and self-study related to various aspects of family living. It would make sense to infer motives for participation from the kinds of learning activities, such as these, in which adults engage. Based on this, it may be concluded that two major motivations for adult learning are to improve occupational performance and to enhance competence in the roles of parent and spouse. However, even though this reasoning has its validity, it is not exactly true because reasons for participation are usually multiple and interrelated in complex ways.

A number of attempts were made to bring order and structure in the enormous variety of reasons that adults give for participating in distance education. One of the first efforts of this kind was undertaken by Houle (as cited in Cross, 1981). The researcher singled out three subgroups of distance learners based on the common features running through the activities and motivation of the learners. The first subgroup, *goal-oriented* learners, use learning to gain specific objectives, such as learning to deal with particular family problems and learning better business practices. For the goal-oriented learners, learning is a series of episodes, each beginning with the identification of a need or an interest.

The second subgroup, *activity-oriented* learners, participates primarily for the sake of the activity itself rather than to develop a skill or learn subject matter. They may

take a course or join a group to escape loneliness or boredom or an unhappy home or job situation.

The third subgroup, identified by Houle, consists of those who are *learning-oriented.* These learners pursue learning for its own sake. They seem to possess a fundamental desire to know and to grow through learning, and their activities are constant and lifelong.

Burgess (as cited in Cross, 1981) came up with a more detailed scale of nine motivational goals that constituted main reasons for learning. Those factors were the following: knowledge goals, personal goals, community goals, religious goals, social goals, escape goals, obligation fulfillment, personal fulfillment, and cultural knowledge.

Aslanian and Brickell (1980) suggested that changing job requirements or career changes often forced adults to get additional education to survive or advance in the job market. Other major reasons why adults returned to college included family life transitions (marriage, divorce, death), changes in leisure patterns, and self-fulfillment. The researchers proposed a "triggers and transitions" theory that related the adult's decision to return to school to developmental issues and crises faced during midlife. Transitions (the movement from one status to another) required new knowledge, skills, and/or credentials that often led people back to college. Triggers were events that precipitated the timing of an adult's decision to return to school, most frequently career events and family changes.

Benefits of Distance Learning

Reasons, motivating students to enroll into the distance education, might come from the benefits of distance learning. Porter (1997) singled out the following benefits:

1. *Students learn at their own pace.* They can take as much time as they need to complete learning activities. They can go over materials many times or proceed quickly and use materials during the day, after work, during breaks, or at any other time-whenever is convenient for them and the provider of the information.
2. *Students learn in a convenient location.* Distance learning can take place in many convenient locations. Learners at home or at work can access Web-based information or use the Internet to send and receive e-mail, work with mailing lists, and download bulletin board notices. The variety of distance learning media helps ensure that people who want to take a course can take one conveniently, wherever they are located. Because distance learning spans many technologies that can virtually reach nearly everyone in the world, learners may find that anyplace can be a learning environment.
3. *Students learn about topics that may not be covered in courses or programs offered in their area.* Many universities, colleges, business, and independent consultants may offer educational and training programs within a geographic region. Those potential learners living in a geographic region where the specialization fails to match their interests or educational needs look outside the region for a high-quality specialty program. Distance learning can help learners find a number of programs specializing in their areas of interest, even if the programs are not offered in their geographic region.
4. *Students participate in the programs of universities, colleges, businesses, and other groups that offer high-quality or high-prestige programs without having*

to relocate. Within each discipline or profession, some institutions are noted for their high-quality training or educational programs. Participating in high-quality, specialized programs through distance learning can enhance learners professional standing to provide them with exactly the type of training or education they will need on the job. Learners who want to 'attend' a school whose name is instantly recognized as a prestigious institution now can take at least some courses without having to relocate near the institution.

5. *Students learn according to their preferred mode of learning.* Everyone has a learning preference. Some people are active learners, others are more passive. Distance learning offers a variety of materials available to meet everyone's learning preference. For example, some people are hands-on learners, who learn best by doing. Hands-on learners might prefer using online, CD, or interactive video simulations of tasks they will need to complete later. Virtual reality may be a big part of their educational experience. For learners who prefer graphics, the Web offers a wealth of diverse materials. Film, animation, sound effects, music, voiceovers, static (nonmoving) and moving graphics, photos, and 3-D virtual environments are some formats through which they might learn best. Distance learning courses, if they are well designed, offer learners a wide range of choices, so that they can find the right mix of interaction and learning style to enhance their individual capacity to learn or be trained.
6. *Students can direct their learning.* It is one of the most important benefits. Most learners need and want a guide, whether an institution through its

requirements and policies, or an individual educator, who may provide tutoring, mentoring, and counseling, in addition to serving as an instructor. However, the learners themselves must take responsibility for participating in programs, completing assignments, gathering information, and developing skills.

Barriers and Attractions of Distance Education

All of the above mentioned benefits of distance learning contribute to so-called attractions of distance education. At the same time, research provides information on barriers to on-campus learning. Attractions and barriers are related, however, they also pose an important difference in emphasis. Wallace (1996) suggested that differences come from the reason why students participate in distance education: if they participate primarily for negative reasons (i.e., because of barriers to on-campus learning), or they participate for positive reasons (i.e., because of the attractions of distance learning). As research showed, distance education came to be identified with greater flexibility and openness than was characteristic of on-campus education. That is why Wallace suggested that at least some students might see this feature as an important attraction.

Research shows that barriers to participation in educational activities most frequently cited by adults are lack of time and cost. Other barriers include home responsibilities, job responsibilities, and lack of self-confidence or interest. Obstacles to participation can be classified into several categories. Cross (1981) viewed barriers as falling into three types: situational (circumstances in the individual's life such as family and work), institutional (organizational policies and procedures), and dispositional (attitudes towards self and learning). Darkenwald and Merriam's (1982) research on

barriers extended Cross's model with the addition of another type of barrier- informational- as represented by a lack of information regarding educational opportunities. In the process of their research, Darkenwald and Merriam renamed dispositional barriers to psychological. Situational barriers, as described by the researchers, related to an individual's life context at a particular time, that is, the realities of one's social and physical environment. Cost and lack of time could be examples. Other situational barriers of consequence include lack of transportation, lack of childcare, and geographical isolation. Institutional barriers were those produced by learning institutions whenever they excluded or discouraged certain groups of learners because of such things as inconvenient schedules, restrictive locations, and lack of attractive or appropriate courses.

Psychological (dispositional) barriers included, according to Darkenwald and Merriam, individually held beliefs, values, attitudes, or perceptions that inhibited participation in organized learning activities. The researchers suggested that adults who cited as barriers "are too old to learn," "are tired of school," and so forth were expressing some of the wide variety of beliefs and attitudes that strongly influenced participation behavior.

Cross's (1981) model was utilized by a number of researchers in distance education (Hezel & Dirr, 1991; Garland, 1993), most of whom focused on situational barriers such as the family and work commitments of adult learners and geographic distance. Hezel and Dirr's (1991) research showed that time constraints arising from conflicting demands outweighed distance constraints for adult students taking distance

education courses. Garland (1993) and Rossman (1993) identified physical disabilities as a situational barrier for some individuals.

Grace (1994) studied dispositional barriers in regards to females. The researcher found that women more often experienced a lack of confidence in their academic abilities and reported fears about being unable to complete the course. Grace suggested that the invisibility of the distance education learner was compounded by gender because historically women were excluded from the processes by which knowledge was constructed.

Pym's (1992) research study investigated the impact of distance education on Canadian women enrolled in nursing programs. The findings showed that women continued to function in traditional homemaker and parental roles during their course work. Most of the time the problems appeared when the additional role of student threatened to disrupt the existing order. Pym found that strong academic and social support were important facilitators of success in this program. Pym suggested that the degree of comfort with communications technology was associated with success.

Cragg (1994) studied graduate students enrolled in a computer-mediated conference course. The researcher found that the degree of frustration experienced by students was directly related to satisfaction and success. Cragg suggested that a strong technical support and advisory system was essential if computer-mediated distance learning was to be a successful teaching-learning mode.

Changes in the Demographics and Motivation of Distance Education Students

University distance education students are usually described as adults, going to school part-time, often at a geographic distance from the campus. Recent research studies

suggest, however, that the demographics of distance learners are changing. A study conducted by Wallace (1996) investigated the nature and magnitude of motivation and demographic changes at a Western Canadian University using enrollment data from the past decade.

The population of the research study consisted of all students at the University of Manitoba who had been enrolled in a degree-credit independent study course during the regular session in any of the years 1983-84 to 1994-95. The following information was obtained from the archived student records: age at time of enrollment, gender, residence (in the city of Winnipeg versus outside), course load, and type of registration (independent study only versus independent study concurrent with on-campus courses). Results indicated that the independent study population shifted towards younger students, local residence, and full-time course load that combined independent study with on-campus courses. The researcher suggested that these shifts indicated a convergence in characteristics of the independent study and on-campus populations. This trend also appeared to be shared by other western Canadian universities.

A survey instrument was developed to investigate the reasons why historically atypical students enroll in independent study. In addition, the survey elicited demographic information and included an open-ended question that asked the participants to add any additional reasons for registering that they felt were missing from the questionnaire. A response rate of 63% was obtained. The findings indicated that the typical respondent in this survey was 23-25 years of age, female, single with no dependent children, and working about 20 hours per week in a service sector job. This typical student was a returning university student, having completed at least the

equivalent of her first year of course work. She is currently enrolled in three full courses, and there is a 50% chance that the independent study course in which she was registered is not her first. Results also suggested that the most important barrier pushing students towards registration in independent study was work commitments. The most important attractions related to control of the time, place, and pace of learning.

The National Center for Education Statistics (1996) detected a nationwide trend toward older, working adults. The NCES reported that 42 % of all U.S. college students were older than 24, and the trend toward older students in the nation's universities was expected to continue in the years ahead. At the same time, the NCES predicted an upswing by 2004 in U.S. college enrollment to 15.9 million students. That increase will be fueled by rising numbers of high school graduates coupled with more nontraditional and foreign student enrollments, and new students are expected to be more racially and ethnically diverse. A national study also found that 53% of all distance education students are women and the typical adult student can be described as a 33-year-old female who works full time.

MacBrayne (1995) examined demographic characteristics and the motivations of rural adult learners that enroll in an associate degree distance education program. The researcher addressed the following research questions: Who enrolled and what reasons did they give for doing so? What underlying motivations influenced the decision to enroll in college? What barriers and facilitators affected the enrollment decision? A questionnaire was completed by 672 students. The results showed that three quarters of people who responded were women, and the majority were between the ages of twenty-three and forty. Almost half had previously enrolled in college courses but had not

obtained degrees at the time they completed the questionnaire. The questionnaire asked respondents to rate thirteen reasons for enrolling in their current courses. Most students named several reasons. The two reasons in the questionnaire to which students assigned the highest mean scores were related to the location of the course and their interest in the course content. These were followed by the desire to obtain a degree and the importance of the course for a future career. A factor analysis revealed four distinct factors that were characterized as motivational traits. In order of importance to the sample they were: degree seeking, information seeking, participating, and job enhancing. The fifth factor-convenient location of the college course - was also assigned the highest score. This factor characterized a facilitator for enrollment rather than a motivational trait.

A review of the demographic characteristics of those students who scored high in each of the five factors indicated that there were more similarities than differences. Women were overrepresented in the degree seeking, information seeking, participating and course location factors. Proportionately, more men scored high on the job-enhancing trait, and they were overrepresented in the group that scored low on the four motivational traits. Regarding age, for those not highly motivated by the first four factors, the mode was eighteen to twenty-two years, while the mode for all other factors was thirty-one to forty years. The mode for educational level for all groups was "some college," with the exception of those scoring high on the participating trait. Somewhat less educated, the mode for them was "high school diploma." Interviews with the students revealed several barriers that prevented students from enrolling in college previously. The most frequently cited barriers were lack of time and lack of money. They were followed by concerns

about poor academic preparation, distance required to travel to college courses, and family responsibilities.

As the review of literature showed, themes drawn from adult education that also dominate the distance education literature, included the observations that DE students are different in terms of development and experience from traditional students. Furthermore, various aspects of life often served as primary motivators for enrollment in DE programs. Many researchers attempted to study motivational goals of DE students, however, as the review of literature indicated, little research was conducted to ascertain what motivated students to enroll in Web-based format. Without understanding students' motivations, it is difficult for educators to design programs and services to meet the educational needs and aspirations of these students and encourage their academic success. All that makes it very important to determine who are those students that enroll in DE programs and what reasons they have for doing so.

Research Questions and Hypotheses

For the purpose of this study, the research questions have been stated as the following:

1. What are the demographics of the distance learning population at the University of Windsor?
2. What are the motivational factors that influence students enrolling in the distance education program?
3. Is there a difference in motivational factors of students who enroll in distance education program and students who enroll in traditional on-campus learning?

4. What are the barriers to on-campus learning that contribute to students' enrollment in the DE format?

As the working hypotheses it could be predicted that a) there is a difference in motivational goals of students who enroll in DE program and students who enroll in traditional on-campus learning, and b) situational and dispositional barriers would be the main contributors to students' choice of distance education format over the on-campus format.

CHAPTER III

METHOD

Subjects

Subjects for this study were selected from a population of undergraduate students enrolled in the distance education courses at the University of Windsor. Four Web-based courses that required extensive use of technology, such as software, CDs, videocassettes, etc. and access to the Internet were randomly selected from the pool of professors consenting to participate. Subjects were those students enrolled in the professor's course. This provided a sample size of 120 students for an experimental group. A sample of 120 undergraduate students for a control group was randomly selected from a population of undergraduate students enrolled in on-campus courses (See Table 1).

Table 1.

Students Selected for the Sample

Learning Format	Number of Students Chosen to Participate	Number of Respondents	Percent of Respondents
Web-based Instruction (DE)	120	79	65.8%
Face-to-face Instruction (On-campus)	120	95	79.2%
Sample Total	240	174	72.5%

In total, out of 240 students chosen to participate, 174 responded. The majority of respondents were females - 66.7%, who significantly outnumbered male participants (33.3%) 2 to 1. The predominant age group was 20-24 years – 42% followed by the

respondents who were less than 20 years old – 33.9%. Ninety-three percent of all the participants were regular students and 6% were professionals. Fifth-three percent were unemployed and 30% of the participants were employed part-time. Eighty-five percent of respondents were going to school full time.

Instrumentation

A quantitative questionnaire (see Appendix B) was designed in order to identify the motivational factors that influence students' decisions to enroll in a distance education program. The questionnaire included 55 items that were developed based on issues raised in the literature research. The instrument consisted of six parts. The first part covered various demographic characteristics, such as students' age, gender, marital status, year of study, etc. The second part was concerned with the evaluation of students' basic computer skills, such as knowing how to use databases, spreadsheets, word processing, knowledge about the Internet, and e-mail exchange. The third part served to identify the reasons why students choose to enroll in distance education or traditional on-campus courses. All the questions were divided into eight groups to reflect the following motivational goals: knowledge (Questions1-3), personal gains (Questions4-7), community goals (Questions 8-10), social reasons (Questions 11-12), escape reasons (Questions 13-14), obligation fulfillment (Questions 15-16), personal fulfillment (Questions 17-19), cultural knowledge (Question 20). The fourth and the fifth parts were concerned with the investigation of learning style preferences and educational barriers-situational, institutional, and dispositional- that might prevent students from enrolling in on-campus learning and serve as facilitators toward distance education. The sixth part of the questionnaire was supposed to be filled out only by the students who had dropped out.

Students were asked to select responses using a 5 – point Likert scale, with 1 as strongly agree and 5 as strongly disagree. The items were worded both positively and negatively to prevent acquiescence bias.

The questionnaire was tested on a group of ten students not taking part in the study. Students were asked to comment on the clarity of the questions. The feedback from this group was evaluated, changes were made and used to improve the final revised version of the questionnaire. Eventually the sixth part of the questionnaire that served to survey the dropouts was removed partially due to the problems in identification of those students and partially due to a low response rate (only four students responded out of 39 chosen to participate). One of the reasons for a low response rate could be that the questionnaire had to be included into the body of e-mail. Such a manner of data collection does not provide complete anonymity for students, which, in turn, might have affected their decision to participate in the study.

Procedures

The correlation research methodology was used for this study. This methodology was chosen since the study attempts to investigate the relationship between motivational variables and enrollment in distance education program instead of traditional on-campus courses.

Prior to the beginning of this study letters requesting permission to conduct the study and get access to students' e-mail addresses were sent to the Faculty of Education Ethics Committee (see Appendix C) and Registrar and Administrative Dean (See Appendix D). After receiving approval for the study, letters requesting permission were sent to the Coordinator of the Distance Education program (see Appendix E) and the

Dean of Faculty of Education (see Appendix F). After permission was granted, a letter requesting permission to administer the quantitative questionnaire was sent to selected professors (see Appendix G). After approval was obtained from the class professors, the questionnaire was e-mailed to the students enrolled in Web-based distance education courses chosen to participate in the study. For those students who are enrolled in on-campus courses, convenient class time was determined to administer the questionnaire. To balance between the two formats of data collection (print and on-line) some of the on-campus students were asked to fill out the questionnaire on-line.

It took three weeks to get students' responses back. Students were given a letter of consent in the form of a cover letter to the questionnaire (see Appendix A). It requested their participation in the study and ensured confidentiality. The cover letter also gave participants the instructions on how to fill out the questionnaire. The survey required approximately 5 to 10 minutes to complete. All the test forms were numbered in order to track the number of returns and to ensure anonymity. Those questionnaires that were incorrectly filled out or incomplete, contributed to the percentage of non-usable service.

CHAPTER IV

RESULTS

Introduction

The purpose of this investigation was to identify the demographic characteristics and the motivational profile of the distance-learning students, as well as to find out what barriers and facilitators affect the enrollment decision. The methodology employed a survey of a sample of DE student population enrolled in web-based courses at the University of Windsor in summer and fall 2000.

The data collection instrument was a 55 item self-administered questionnaire. Data were analyzed using the SPSS 7.5 statistical program for personal computers. SPSS is designed to facilitate data and statistical analysis in social science research. The program allows researchers to complete analysis of data from descriptive statistics to multiple-regression techniques.

A total of 174 questionnaire response forms (out of 240 selected to participate) were completed by subjects and returned. The data from the forms were read into a computer data file for later analysis. Statistical tests were applied in accordance with the parameters of the research question and hypotheses. For descriptive purposes, where appropriate, arithmetic means and standard deviations were reported. A significance level of .05 was selected for this study, however, significance levels .01 were also reported. The findings of this study have been organized into the following sections:

1. Demographics of the students.
2. Computer skills.

3. Motivational goals.
4. Barriers to on-campus learning.
5. Barriers to on-campus learning (DE students' responses only).

Demographics

Part I of the questionnaire consisted of 15 questions and was aimed at collecting demographic data of the participating students. For descriptive purposes some of the demographic characteristics of the *DE* and *On-Campus* students are reported here (See Appendix H for complete results):

- The predominant age group for both learning formats was 20-24 years (41.8% for DE and 42.1% for on-campus). The difference appeared in the age group over 30 years: 14.0% of all DE participant fell into this category compared to 5.3% of on-campus students.
- In both formats, female students prevailed over male: 2 to 1.
- DE format attracted more married participants than on-campus format: 30.4% versus 12.6%. The majority of students were single in both formats.
- Students enrolled in DE program indicated a larger number of dependents compared to the on-campus students. Almost 3% of DE students have 3 dependents, whereas in On-campus format this category did not show at all. The number of students without dependents also differed: 90.5% of on-campus students had no dependents compared to 77.2% of DE students.
- In terms of employment status more DE than on-campus students were employed full-time: 20.3% vs. 8.4%.

- Even though annual income of the majority of students in both learning formats was less than $10, 000, the second most common income for DE students was $30-40,000 (13.9%), while 15.8% of on-campus students indicated that they earn $10-20, 000.
- Seventy-four percent of DE students were full-time students compared to 93.7% of on-campus students.
- Sixty percent of DE students indicated having previous Web-based experience compared to 15.8% of on-campus students.

Demographic variables were examined for differences related to Learning Format. Crosstabs testing was conducted in order to measure the association between Learning Format and the demographic variables. The results showed the presence of a significant relationship between Marital Status and Learning Format, chi-squared (2)=9.13, $p<.05$ (See Table 1a). Twice as many married students were enrolled in DE (N=24) as compared to on-campus courses (N=12). It seems that family demands may predispose students to the DE Format.

Table 1a.
Frequencies and Percentages For Learning Format and Marital Status

Marital Status	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
Single	81	85.3%	52	65.8%
Divorced	2	2.1%	3	3.8%
Married	2	12.6%	24	30.4%

Crosstabs testing indicated a significant relationship also between the Number of Dependents and Learning Format, chi-squared (3)= 7.99, $p<.05$. Almost 23% of off-campus students had dependents whereas only 9.5% of on-campus students did (See Table 1b).

Table 1b
Frequencies and Percentages For Learning Format and Number of Dependents

Number of Dependents	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
None	86	90.5%	61	77.2%
1	8	8.4%	11	13.9%
2	1	1.1%	5	6.3%
3	0	0%	2	2.5%

Another significant relationship was evident between Income and Learning Format, chi-squared (5)= 16.17, $p<.05$ (See Table 1c). When income gets above $20, 000, it seems that the higher income group prefers the DE format. Nearly twice as many people earning above $20, 000 opted for DE studies (N=31) as opposed to on-campus (N=17).

Table 1c
Frequencies and Percentages For Learning Format and Income

Income	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
Less than $10, 000	63	66.3%	45	57.0%
$10, 000 – 20, 000	15	15.8%	3	3.8%
$20, 000 – 30, 000	3	3.2%	7	8.9%
$30, 000 – 40, 000	3	3.2%	11	13.9%
$40, 000 – 50, 000	6	6.3%	6	7.6%
Over $50, 000	5	5.3%	7	8.9%

Crosstabs testing indicated a significant relationship also between Learning Format and Full/Part-time Studies, chi-squared (1)= 12.25, $p<.05$ (See Table 1d). Over 25% of DE students were enrolled in part-time studies, whereas only 6.3% of on-campus students chose to be part-time.

Table 1d
Frequencies and percentages For Learning Format and Full/Part-time Studies

Studies	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
Full-time	89	93.7%	59	74.7%
Part-time	6	6.3%	20	25.3%

Crosstabs testing indicated a significant relationship also between the Year of Study and Learning Format, chi-squared (4)= 10.51, $p<.05$ (See Table 1e). Almost 56% of all participating on-campus students were the first year students compared to 38 of all DE students. It may be that DE is not as appealing to first year students.

Table 1e
Frequencies and Percentages For Learning Format and Year of Study

Year of Study	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
1	53	55.8%	30	38.0%
2	27	28.4%	28	35.4%
3	9	9.5%	15	19.0%
4	3	3.2%	6	7.6%
5	3	3.2%	0	0%

Another significant relationship appeared to exist between Learning Format and Previous Web-based Experience, chi-squared (1)=35.92, $p<.05$. Off-campus students had significantly more Web-based experience than traditional students: 59.5% of DE students with Web-based experience against 15.8% of on-campus students with previous Web-based experience (See Table 1f).

Table 1f
Frequencies and Percentages For Learning Format and Previous WB Experience

Previous WB Experience	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
Yes	15	15.8%	47	59.5%
No	80	84.2%	32	40.5%

Crosstabs analyses showed that there was no significant relationship between the following variables (See Tables 1g-m):

- Learning Format and Age, chi-squared (5)=5.34, p>.05.
- Learning Format and Gender, chi-squared (1)=2.97, p>.05.
- Learning Format and Vocational Level, chi-squared (3)=2.87, p>.05.
- Learning Format and Employment Status, chi-squared (3)=6.96, p>.05.
- Learning Format and Occupation, chi-squared (3)=1.75, p>.05.
- Learning Format and Student's Major, chi-squared (4)=6.90, p>.05.
- Learning Format and Place of Residence, chi-squared (4)= 3.32, p>.05.

Table 1g
Frequencies and percentages For Learning Format and Age

Age	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
<20	33	34.7%	26	32.9%
20-24	40	42.1%	33	41.8%
25-29	17	17.9%	9	11.4%
30-34	3	3.2%	7	8.9%
35-39	0	0%	1	1.3%
>40	2	2.1%	3	3.8%

Table 1h
Frequencies and Percentages For Learning Format and Gender

Gender	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
Male	37	38.9%	21	26.6%
Female	58	61.1%	58	73.4%

Table 1i
Frequencies and Percentages For Learning Format and Vocational Level

Vocational Level	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
None	73	76.8%	60	75.9%
Professional	19	20.0%	14	17.7%
Skilled/Clerical	2	2.1%	5	6.3%
Unskilled	1	1.1%	0	0%

Table 1j
Frequencies and Percentages For Learning Format and Employment Status

Employment Status	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
Unemployed	54	56.8%	39	49.4%
Full-time Employed	8	8.4%	16	20.3%
Part-time Employed	32	33.7%	21	26.6%
Homemaker	1	1.1%	3	3.8%

Table 1k
Frequencies and Percentages For Learning Format and Occupation

Occupation	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
Student	88	92.6%	74	93.7%
Professional	5	5.3%	5	6.3%
Skilled/Clerical	1	1.1%	0	0%
Homemaker	1	1.1%	0	0%

Table 1l

Frequencies and Percentages For Learning Format and Major of Study

Major	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
Arts	15	15.8%	7	8.9%
Social Science	9	9.5%	6	7.6%
Business	11	11.6%	13	16.5%
Science	44	46.3%	47	59.5%
Other	16	16.8%	6	7.6%

Table 1m

Frequencies and Percentages For Learning Format and Place of Residence

Place of Residence	On-campus		Off-campus	
	Frequencies	Percentages	Frequencies	Percentages
Windsor	90	94.6%	74	93.7%
Leamington	1	1.1%	1	1.3%
Sarnia	3	3.2%	2	2.5%
Other	1	1.1%	2	2.5%

Computer Skills

To analyze data of Part II of the Motivational Questionnaire, crosstab testing was conducted.

Computer Skills and Learning Format

Crosstabs testing showed no significant relationship between the following computer skills and Learning Format (See Table 2a):

- knowing how to use databases, chi-squared (4)= 4.58, p>.05. Sixty-five percent of on-campus students as compared to 78% of off-campus students 'strongly agreed' or 'agreed' on this question. Even though it seems that

DE students are more knowledgeable about databases than on-campus students, the difference is not statistically significant;

- having experience in using spreadsheets, chi-squared (4)= 3.76, p>.05. Sixty-five percent of on-campus students as compared to 71% of off-campus students 'strongly agreed' or 'agreed' with the statement that they possess this skill. Once again DE students just seem to be more familiar with this computer skill than on-campus respondents, however, the difference is not statistically significant;
- being competent with word processing, chi-squared (4)= 4.07, p>.05. Almost 96% of on-campus students and 99% of off-campus students 'strongly agreed' or 'agreed' with the statement.
- E-mail exchange, chi-squared (4)= 8.42, p>.05. Sixty-seven percent of on-campus students as compared to 83% of off-campus students 'agreed' with the statement that they exchange e-mails on a regular basis. Off-campus students once again showed that they seem to be more comfortable with application of their computer skills than on-campus students, but the difference is not statistically significant;
- knowing a lot about the Internet, chi-squared (4)= 5.76, p>.05. Seventy-six percent of on-campus students as compared to 87% of off-campus students 'strongly agreed' or 'agreed' to this question.

Table 2a
Frequencies and Percentages For Computer Skills and Learning Format

Computer Skills		On-campus Frequencies	On-campus Percentages	Off-campus Frequencies	Off-campus Percentages
Databases	Strongly Agree	13	13.7%	9	11.4%
	Agree	49	51.6%	53	67.1%
	Neither	21	22.1%	11	13.9%
	Disagree	8	8.4%	4	5.1%
	Strongly Disagree	4	4.2%	2	2.5%
Spreadsheets	Strongly Agree	16	16.8%	11	3.9%
	Agree	46	48.4%	45	57.0%
	Neither	27	28.4%	18	22.8%
	Disagree	4	4.2%	1	1.3%
	Strongly Disagree	2	2.1%	4	5.1%
Word Processing	Strongly Agree	38	40.0%	24	30.4%
	Agree	53	55.8%	54	68.4%
	Neither	2	2.1%	1	1.3%
	Disagree	1	1.1%	0	0%
	Strongly Disagree	1	1.1%	0	0%
E-mail	Strongly Agree	30	31.6%	31	39.2%
	Agree	34	35.8%	35	44.3%
	Neither	25	26.3%	13	16.5%
	Disagree	2	2.1%	0	0%
	Strongly Disagree	4	4.2%	0	0%
Internet	Strongly Agree	35	36.8%	28	35.4%
	Agree	38	40.0%	41	51.9%
	Neither	18	18.9%	10	12.7%
	Disagree	3	3.2%	0	0%
	Strongly Disagree	1	1.1%	0	0%

Computer Skills and Previous Web-Based Experience

Crosstabs analyses indicated the existence of a significant relationship in the distribution only between Previous WB experience and students' experience in using Spreadsheets, chi-squared (4)= 12.48, $p<.05$ (See Table 2b). Eighty percent of students with previous Web-based experience 'strongly agreed' or 'agreed' to the statement that

they have experience in using spreadsheets compared to 60% of students without WB experience who possess the same skill and who 'strongly agreed' or 'agreed' with the statement.

Table 2b
Frequencies and Percentages For Computer Skills and Previous WB Experience

Computer Skills		Previous WBE Yes		Previous WBE No	
		Frequencies	Percentages	Frequencies	Percentages
Spreadsheet	Strongly Agree	8	12.9%	19	17.0%
	Agree	42	67.7%	49	43.8%
	Neither	12	19.4%	33	29.5%
	Disagree	0	0%	5	4.5%
	Strongly Disagree	0	0%	6	5.4%

There was no significant difference in the distribution between Previous WB Experience and the other dependent variables (See Table 2c):

- database knowledge, chi-squared (4)= 7.97, $p>.05$;
- word processing skills, chi-squared (4)= 3.26, $p>.05$;
- e-mail exchange, chi-squared (4)= 4.92, $p>.05$;
- Internet knowledge, chi-squared (4)= 5.74, $p>.05$.

Table 2c

Frequencies and Percentages For Computer Skills and Previous WB Experience

Computer Skills		Previous WBE Yes		Previous WBE No	
		Frequencies	Percentages	Frequencies	Percentages
Databases	Strongly Agree	8	12.9%	14	12.5%
	Agree	44	71.0%	58	51.8%
	Neither	7	11.3%	25	22.3%
	Disagree	2	3.2%	10	8.9%
	Strongly Disagree	1	1.6%	5	4.5%
Word Processing	Strongly Agree	18	29.0%	44	39.3%
	Agree	43	69.4%	64	57.1%
	Neither	1	1.6%	2	1.8%
	Disagree	0	0%	1	0.9%
	Strongly Disagree	0	0%	1	0.9%
E-mail	Strongly Agree	26	41.9%	35	31.3%
	Agree	24	38.7%	45	40.2%
	Neither	12	19.4%	26	23.2%
	Disagree	0	0%	2	1.8%
	Strongly Disagree	0	0%	4	3.6%
Internet	Strongly Agree	26	41.9%	37	33.0%
	Agree	30	48.4%	49	43.8%
	Neither	6	9.7%	22	19.6%
	Disagree	0	0%	3	2.7%
	Strongly Disagree	0	0%	1	0.9%

Computer Skills and Age

Crosstabs testing indicated that there was a significant relationship between age and the following dependent variables (See Table 2d):

- knowing how to use databases, chi-squared (8)= 28.90, $p<.05$. Most of the students from all three age categories 'agreed' or 'strongly agreed.' Of the three age groups, most students fell in the 20-24 group (81%). Age group <20 included 63% and Age group 25+ - 67%. In the 25+ Age group a

number of students (26%) indicated that they lacked this skill, whereas only 5% of the students in the other two groups indicated this fact;

- spreadsheet: chi-squared (8)= 27.90, $p<.05$. The majority of participating students 'agreed' and 'strongly agreed' that they possess this skill (<20 – 59%, 20-24 – 75%, 25+ - 67%). In the 25+ Age group a number of students (17%) indicated that they lacked this skill, whereas only 1.7% of the students in gropu <20 and $% of the students age 20-24 indicated this;
- e-mail: chi-squared (8)= 21.22, $p<.05$. The results showed the same tendency in the decrease of computer skills with age. Students who agreed with the statement were: <20 - 85%, 20-24 - 75%, and 25+ - 60%. Twelve percent of older students age group 25+ indicated that they lacked this skill;
- Internet: chi-squared (8)= 35.14, $p<.05$. Ninety-six percent of younger students age less than 20, 'strongly agreed' or 'agreed' to the statement that they know a lot about the Internet compared to 86% of students age 20-24 and 52% of students age 25+. It seems that younger students are more familiar with the Internet than older ones. Seven percent of students age 25+ indicated that they lacked this skill completely.

Table 2d
Frequencies and Percentages For Computer Skills and Age

Computer Skills		<20		20-24		25+	
		Frequencies	%	Frequencies	%	Frequencies	%
Databases	Strongly Agree	8	13.6%	11	15.1%	3	7.1%
	Agree	29	49.2%	48	65.8%	25	59.5%
	Neither	19	32.2%	10	13.7%	3	7.1%
	Disagree	3	5.1%	3	4.1%	6	14.3%
	Strongly Disagree	0	0%	1	1.4%	5	11.9%
Spreadsheet	Strongly Agree	10	16.9%	12	16.4%	5	11.9%
	Agree	25	42.4%	43	58.9%	23	54.8%
	Neither	23	39.0%	15	20.5%	7	16.7%
	Disagree	1	1.7%	3	4.1%	1	2.4%
	Strongly Disagree	0	0%	0	0%	6	14.3%
E-mail	Strongly Agree	22	37.3%	22	30.1%	17	40.5%
	Agree	28	47.5%	33	45.2%	8	19.0%
	Neither	9	15.3%	17	23.3%	12	28.6%
	Disagree	0	0%	0	0%	2	4.8%
	Strongly Disagree	0	0%	1	1.4%	3	7.1%
Internet	Strongly Agree	27	45.8%	27	37.0%	9	21.4%
	Agree	30	50.8%	36	49.3%	13	31.0%
	Neither	2	3.4%	9	12.3%	17	40.5%
	Disagree	0	0%	1	1.4%	2	4.8%
	Strongly Disagree	0	0%	0	0%	1	2.4%

There was no significant difference between the Age variable and Word Processing, chi-squared (8)= 6.68, $p>.05$ (See Table 2e).

Table 2e
Frequencies and Percentages For Computer Skills and Age

Computer Skills		<20		20-24		25+	
		Frequencies	%	Frequencies	%	Frequencies	%
Word Processing	Strongly Agree	18	30.5%	26	35.6%	18	42.9%
	Agree	40	67.8%	45	61.6%	22	52.4%
	Neither	1	1.7%	1	1.4%	1	2.4%
	Disagree	0	0%	1	1.4%	0	0%
	Strongly Disagree	0	0%	0	0%	1	2.4%

Computer Skills and Gender

Crosstabs testing showed a significant relationship between Gender and the following three dependent variables (See Table 2f):

- knowing how to use databases, chi-squared (4)= 30.52, $p<.05$. Female students who 'strongly agreed' and 'agreed' with the statement significantly outnumbered male students: 80% females vs. 53% males;
- E-mail: chi-squared (4)= 20.47, $p<.05$. In this case, 90% of male students 'strongly agreed' and 'agreed' with the fact that they exchange e-mails on a regular basis, whereas only 67% of female students did;
- Internet: chi-squared (4)= 20.47, $p<.05$. The results showed that 74.1% of males 'strongly agreed' with knowing a lot about the Internet compared to only 17.2% of female students. Sixty percent of female students 'agreed' with the same statement. It seems that in relation to the Internet (both general knowledge and e-mail exchange), males indicate having more knowledge than females.

Table 2f

Frequencies and Percentages For Computer Skills and Gender

Computer Skills		Male		Female	
		Frequencies	Percentages	Frequencies	Percentages
Databases	Strongly Agree	12	20.7%	10	8.6%
	Agree	19	32.8%	83	71.6%
	Neither	21	36.2%	11	9.5%
	Disagree	5	8.6%	7	6.0%
	Strongly Disagree	1	1.7%	5	4.3%
E-mail	Strongly Agree	31	53.4%	30	25.9%
	Agree	21	36.2%	48	41.4%
	Neither	3	5.2%	35	30.2%
	Disagree	1	1.7%	1	0.9%
	Strongly Disagree	2	3.4%	2	1.7%
Internet	Strongly Agree	43	74.1%	20	17.2%
	Agree	9	15.5%	70	60.3%
	Neither	3	5.2%	25	21.6%
	Disagree	3	5.2%	0	0%
	Strongly Disagree	0	0%	1	0.9%

There was no significant difference between 1) Gender and having experience in using Spreadsheet, chi-squared (4)= 1.22, $p>.05$ and 2) Gender and being competent with Word Processing, chi-squared (4)= 4.05, $p>.05$ (See Table 2g).

Table 2g

Frequencies and Percentages For Computer Skills and Gender

Computer Skills		Male		Female	
		Frequencies	Percentages	Frequencies	Percentages
Spreadsheet	Strongly Agree	10	17.2%	17	14.7%
	Agree	27	46.6%	64	55.2%
	Neither	17	29.3%	28	24.1%
	Disagree	2	3.4%	3	2.6%
	Strongly Disagree	2	3.4%	4	3.4%
Word Processing	Strongly Agree	20	34.5%	42	36.2%
	Agree	35	60.3%	72	62.1%
	Neither	2	3.4%	1	0.9%
	Disagree	1	1.7%	0	0%
	Strongly Disagree	0	0%	1	0.9%

Motivational Goals

The Means and the Standard Deviations for the eight motivational dependent variables are reported in Table 3a.

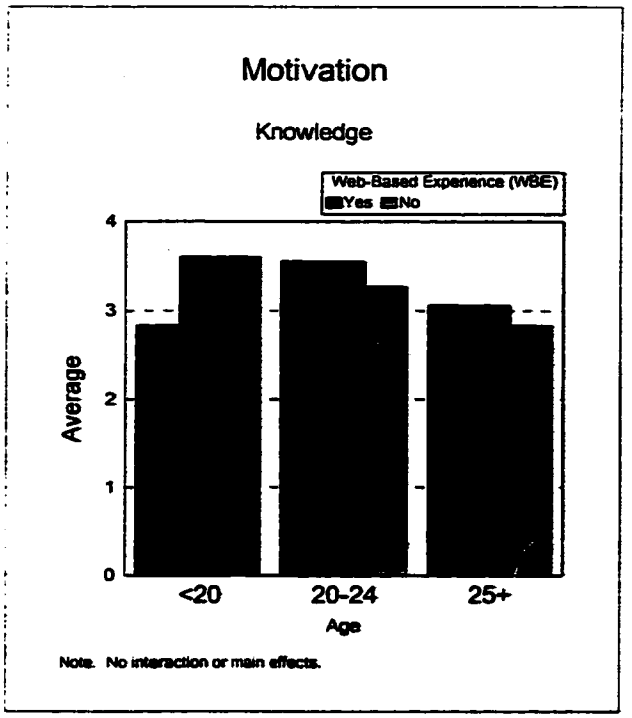
Table 3a

Means and Standard Deviations for the Eight Motivational Traits, for the Three Age Groupings and Previous Web-Based Experience (WBE)

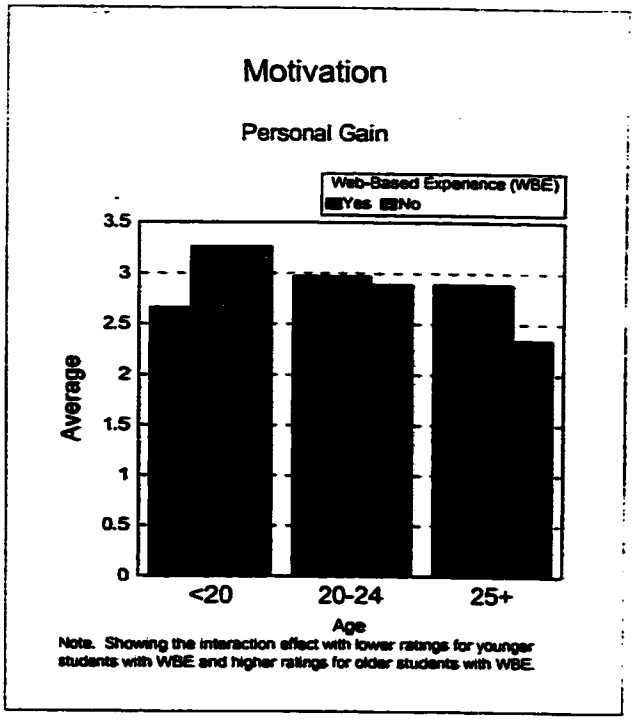
Motivational Trait	Age	Previous WBE Yes		Previous WBE No	
		Mean	SD	Mean	SD
Knowledge	<20	2.83	1.04	3.60	1.09
	20-24	3.55	1.13	3.27	1.01
	25+	3.06	0.79	2.83	0.65
Personal Gains	<20	2.66	0.78	3.26	0.45
	20-24	2.97	0.55	2.89	0.83
	25+	2.89	0.63	2.34	0.92
Community Goals	<20	3.00	1.07	4.10	0.88
	20-24	3.83	1.01	3.45	0.96
	25+	3.80	0.88	3.13	1.08
Social Reasons	<20	3.56	1.40	4.17	0.80
	20-24	4.18	0.93	3.70	0.98
	25+	4.19	0.77	3.30	1.02
Escape Reasons	<20	4.19	1.00	4.49	0.63
	20-24	4.46	0.59	4.18	0.80
	25+	4.17	0.75	3.50	1.01
Obligation Fulfillment	<20	2.00	0.76	3.03	0.54
	20-24	2.89	0.85	3.00	0.57
	25+	3.08	0.58	2.87	0.59
Personal Fulfillment	<20	3.88	1.32	4.23	0.74
	20-24	3.83	0.99	3.48	1.04
	25+	3.41	0.85	2.88	1.02
Cultural Knowledge	<20	3.13	1.89	3.92	1.07
	20-24	4.03	1.11	3.38	1.16
	25+	4.11	0.96	3.26	1.36

A multivariate analysis of variance (MANOVA) was computed using Age (<20, 20-24, 25+) and WBE (Yes, No) as the independent variables for the eight motivational variables (knowledge, personal gains, community goals, social reasons, escape reasons, obligation fulfillment, personal fulfillment, cultural knowledge). There was a significant main effect for Age, F (16, 322)= 4.18, $p< .001$, and for WBE, F (8, 160)= 2.28, $p< .001$, and a significant interaction effect, F (16, 322), $p<.01$. The subsequent univariate analyses for interaction effects showed significant interaction effects for a) personal gains ($p< .05$) with lower ratings for younger students and higher ratings for older students with previous WB experience (See Figure 2b), b) community goals ($p< .05$) with lower ratings for younger students with previous WB experience (See Figure 2c), c) social reasons ($p< .05$) with lower ratings for younger students with previous WBE and higher ratings for older students with previous WB experience (See Figure 2d), d) escape reasons ($p< .05$) with lower ratings for younger students with previous WBE and higher ratings for older students with WB experience (See Figure 2e), e) obligation fulfillment ($p< .05$) with lower ratings for younger students with previous WB experience and higher ratings for older students with previous WB experience (See Figure 2f), and f) cultural knowledge ($p< .05$) with lower ratings for younger students with previous WB experience and higher ratings for older students with WB experience (See Figure 2h). The subsequent univariate analyses for remaining main effects for Age showed significant effect for personal fulfillment ($p<.05$) with the lower ratings for older students. It seems that older students, who are more likely to be married and have children, enroll in courses, so that they can become a better spouse or parent (See Figure 2g). Graphic representations of those effects may be seen in Figure 2 a-h.

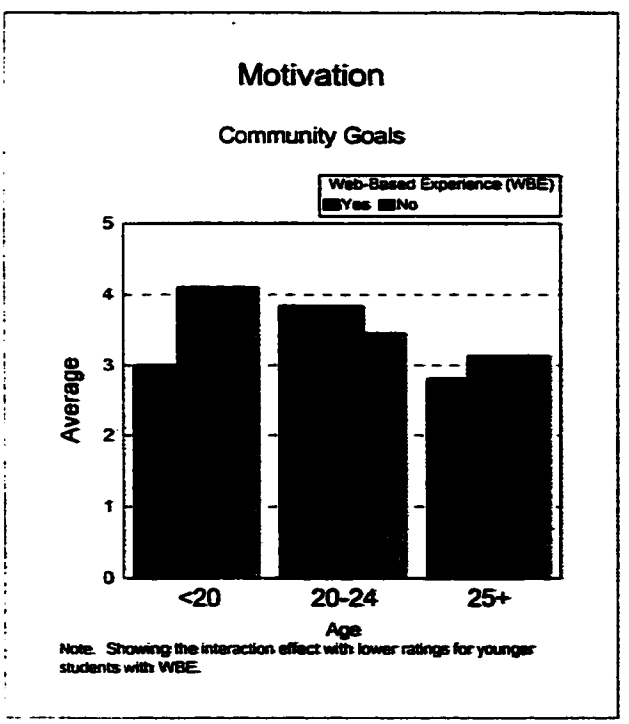
Figure 2. Interaction Effects for Age and Previous WBE (Motivational Goals)



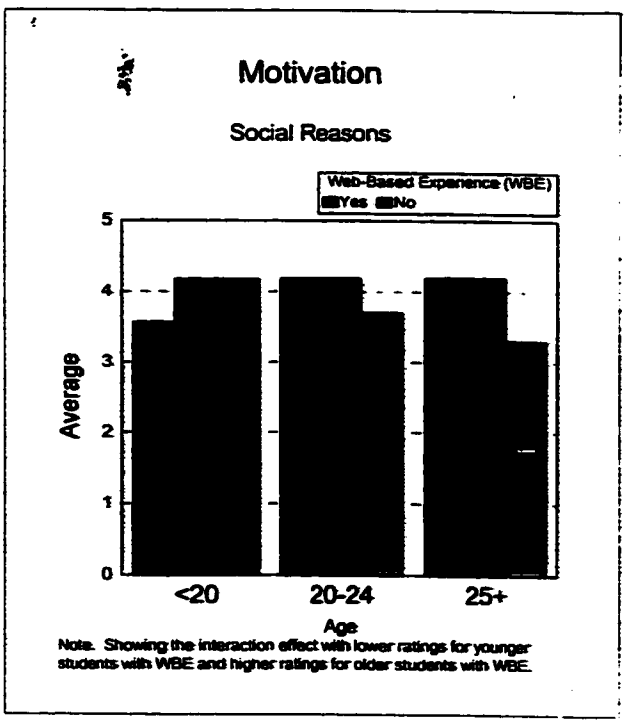
2a



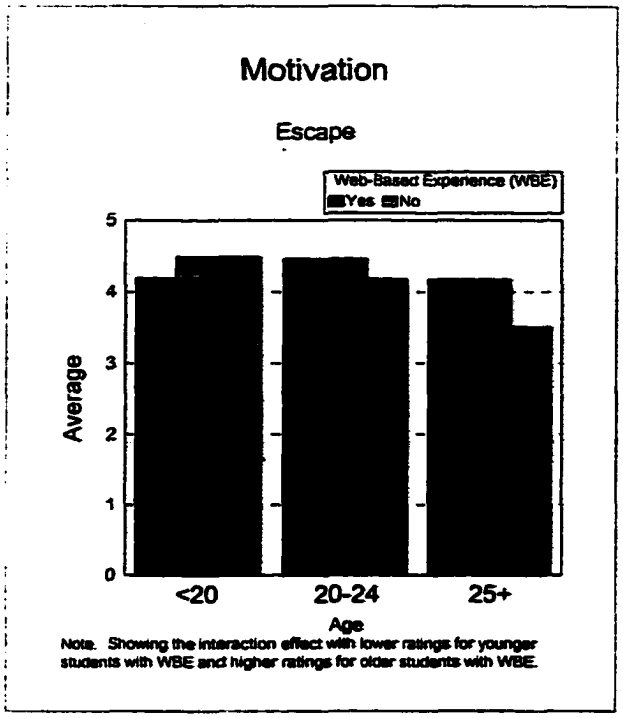
2b



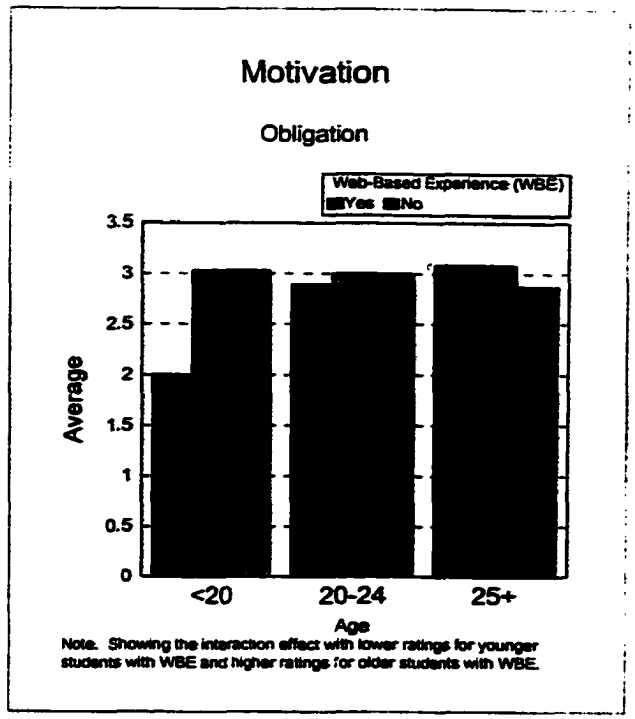
2c



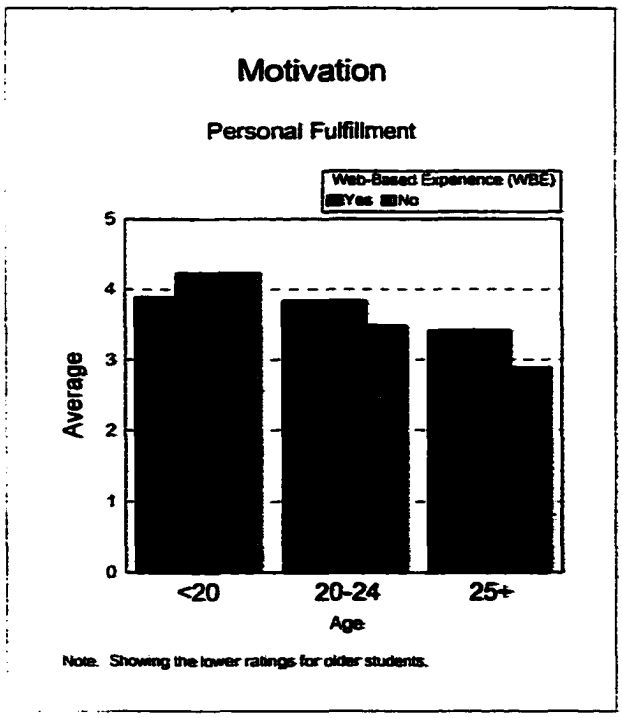
2d



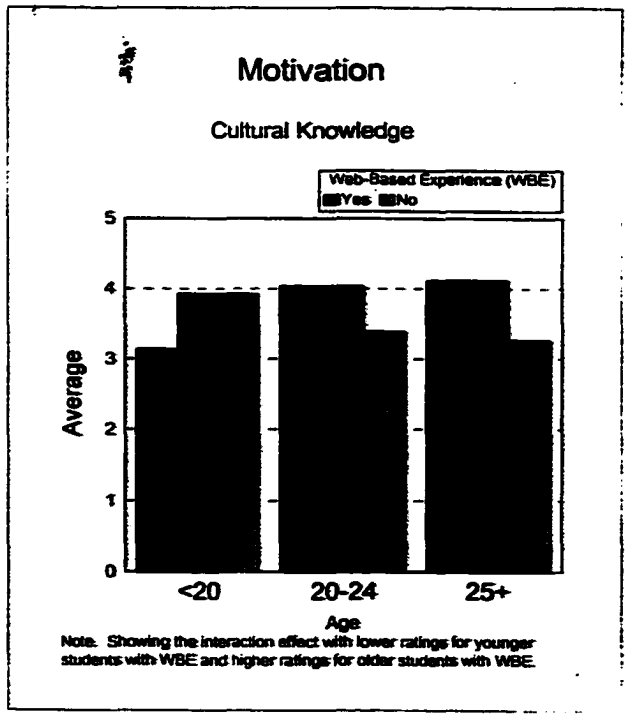
2e



2f



2g



2h

The Means and the Standard Deviations for the eight motivational dependent variables are reported in Table 3b.

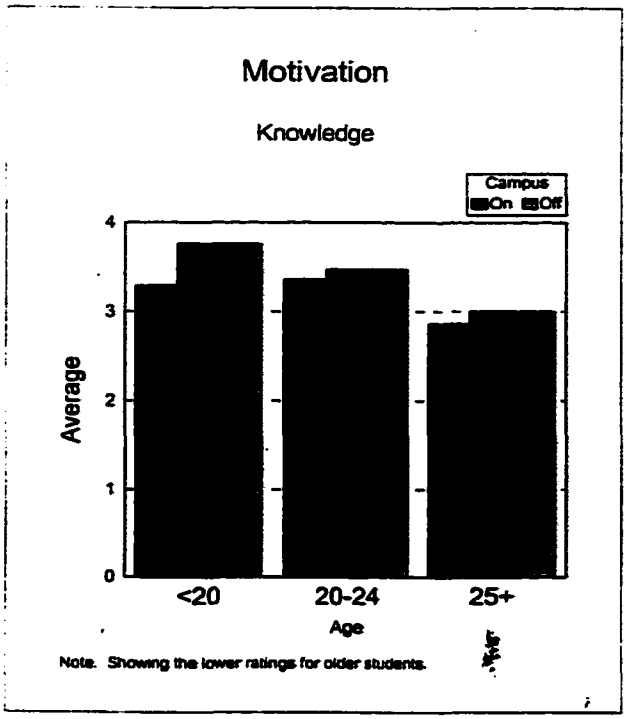
Table 3b

Means and Standard Deviations for the Eight Motivational traits, for the Three Age Groupings and Learning Format

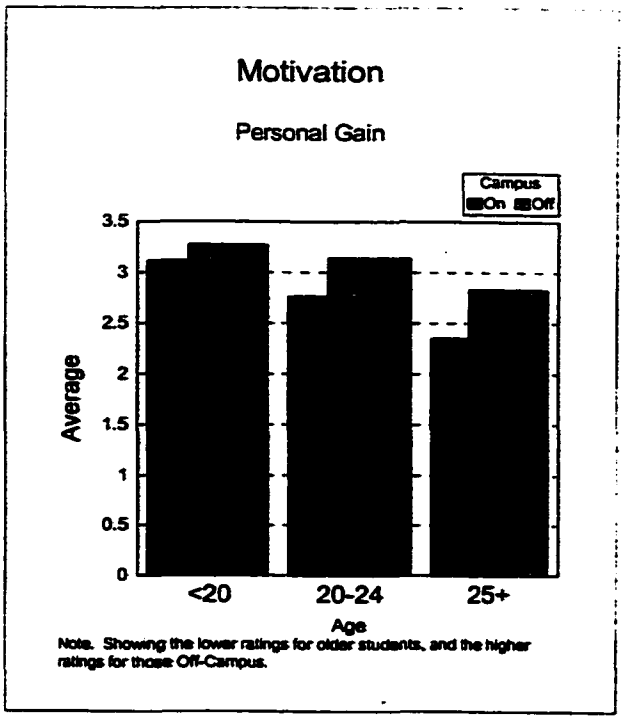
Motivational Trait	Age	Learning Format On-campus		Learning Format Off-campus	
		Mean	SD	Mean	SD
Knowledge	<20	3.29	1.16	3.76	0.99
	20-24	3.36	1.04	3.46	1.14
	25+	2.86	0.61	3.00	0.82
Personal Gains	<20	3.11	0.66	3.27	0.32
	20-24	2.76	0.85	3.14	0.40
	25+	2.35	0.89	2.83	0.73
Community Goals	<20	3.83	0.99	4.10	0.95
	20-24	3.57	1.04	3.73	0.96
	25+	3.05	0.94	3.82	1.02
Social Reasons	<20	3.80	1.03	4.44	0.59
	20-24	3.74	1.10	4.18	0.75
	25+	3.10	0.89	4.33	0.71
Escape Reasons	<20	4.44	0.73	4.46	0.65
	20-24	4.30	0.82	4.33	0.57
	25+	3.24	0.86	4.38	0.67
Obligation Fulfillment	<20	2.92	0.75	2.85	0.56
	20-24	2.99	0.74	2.89	0.69
	25+	2.76	0.41	3.18	0.67
Personal Fulfillment	<20	4.03	0.90	4.37	0.72
	20-24	3.49	1.07	3.85	0.94
	25+	2.92	1.10	3.32	0.81
Cultural Knowledge	<20	3.30	1.33	4.46	0.65
	20-24	3.40	1.26	4.06	0.97
	25+	2.90	1.18	4.40	0.82

A multivariate analysis of variance (MANOVA) was computed using Age (<20, 20-24, 25+) and Learning Format (On-campus, Off-campus) as the independent variables for the eight motivational variables (knowledge, personal gains, community goals, social reasons, escape reasons, obligation fulfillment, personal fulfillment, cultural knowledge). There was a significant main effect for Age, F (16, 322)= 4.18, $p< .001$, and for Learning Format, F (8, 160)= 6.91, $p< .001$, and a significant interaction effect, F (16, 322), $p<.01$. The subsequent univariate analyses for interaction effects showed significant effects only for escape reasons ($p< .05$) with the lower ratings for older on-campus students (See Figure 3e). It seems the older on-campus students, as opposed to DE students, enroll in courses to get away from their daily routine and personal problems. The subsequent univariate analyses for remaining main effects for Age showed significant effects for a) knowledge ($p< .05$) with the lower ratings for older students (See Figure 3a), b) personal gains ($p< .05$) with the lower ratings for older students (See Figure 3b), c) community goals ($p< .05$) with the lower ratings for older students (See Figure 3c), and d) personal fulfillment ($p< .05$) with the lower ratings for older students (See Figure 3g). It seems that older students have stronger motivations for enrolling than younger students. The subsequent univariate analyses for remaining main effects for Learning Format showed significant difference for a) personal gains, b) community goals, c) social reasons, d) personal fulfillment, and e) cultural knowledge – with the higher ratings for those Off-campus ($p< .05$). It seems that on-campus students are more motivated to enroll than DE students. Graphic representations of those effects may be seen in Figure 3 a-h.

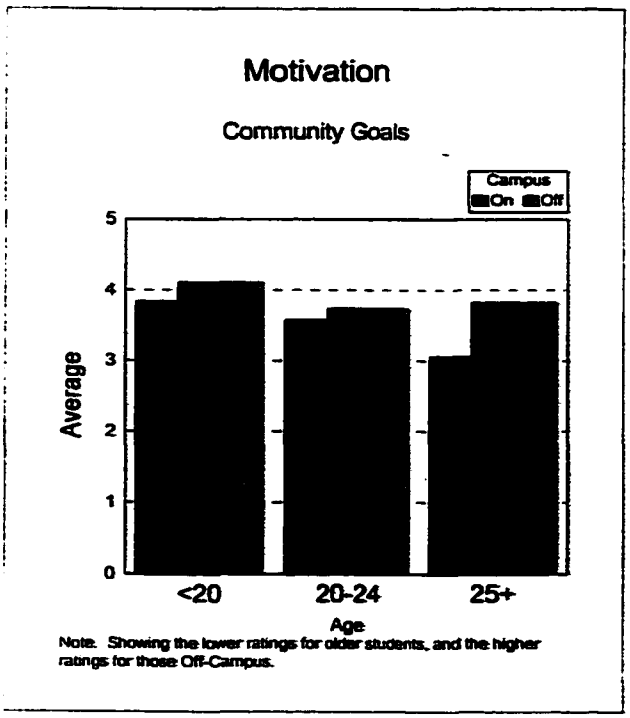
Figure 3. Interaction Effects for Age and Learning Format (Motivational Goals)



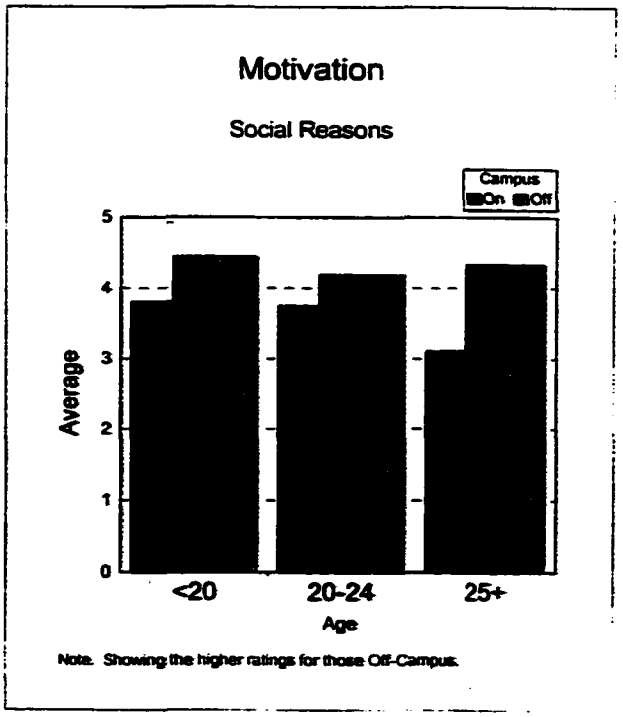
3a



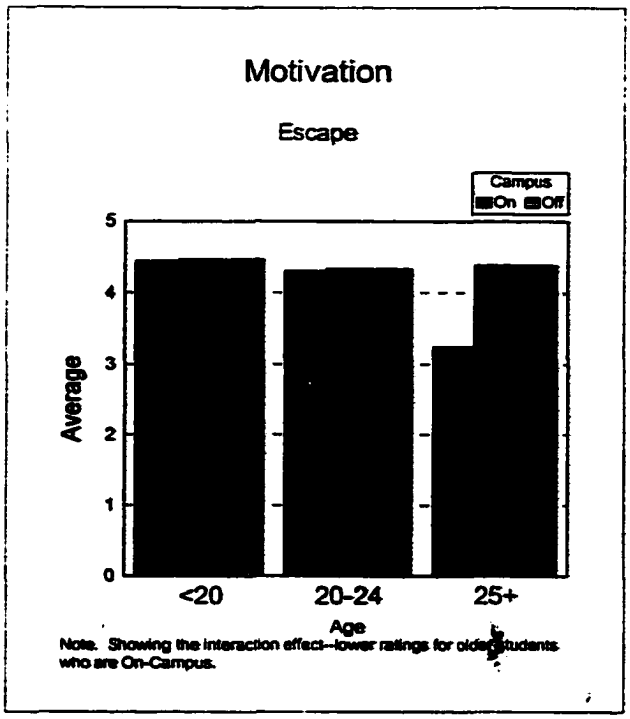
3b



3c

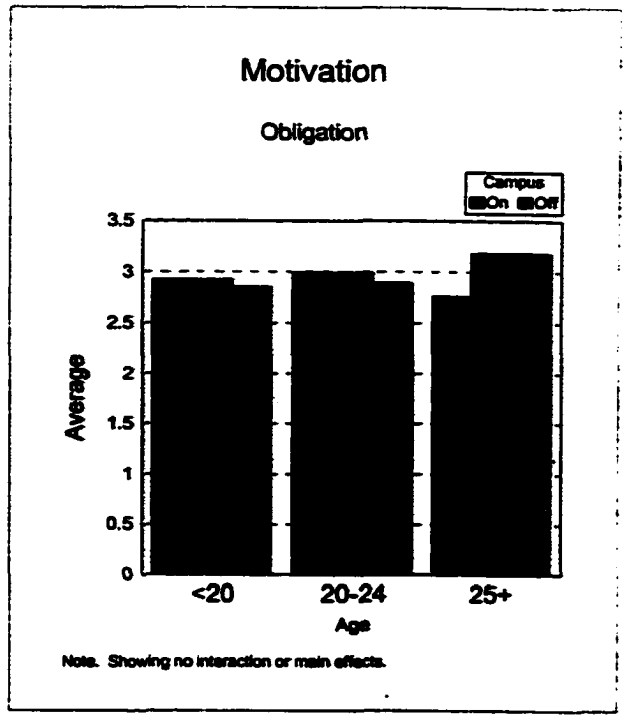


3d



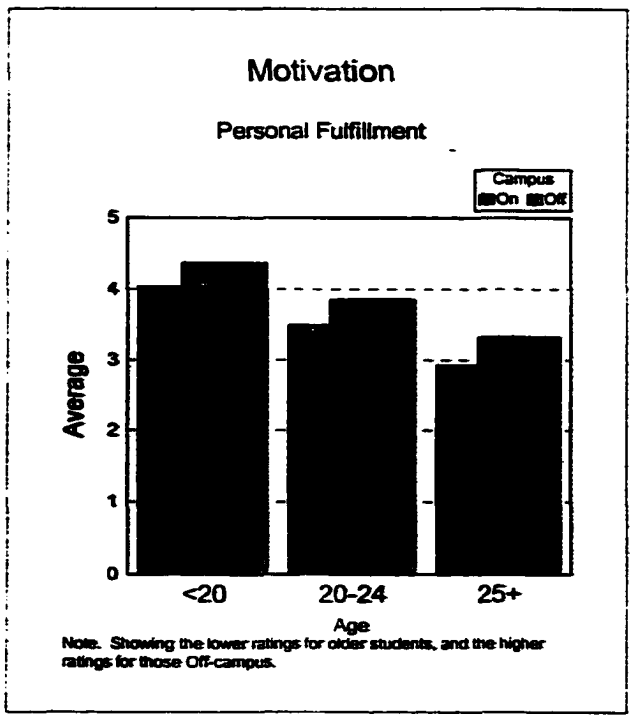
Note. Showing the interaction effect--lower ratings for older students who are On-Campus.

3e



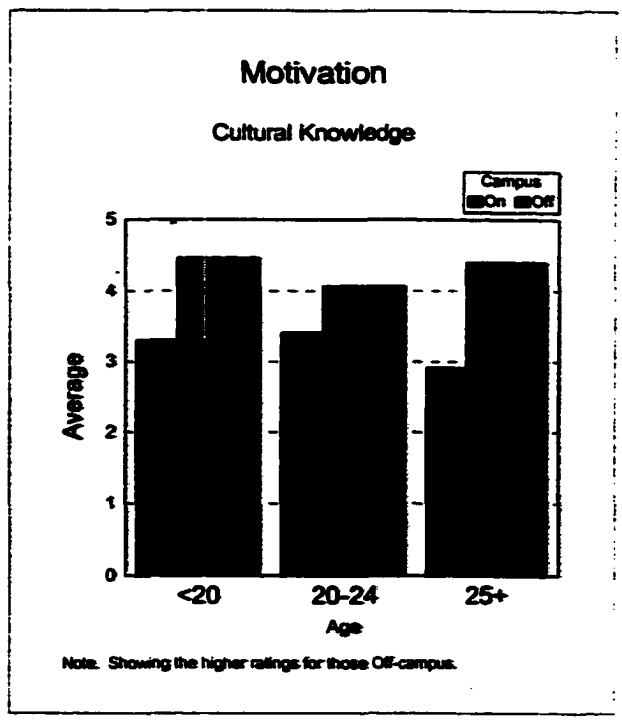
Note. Showing no interaction or main effects.

3f



Note. Showing the lower ratings for older students, and the higher ratings for those Off-campus.

3g



Note. Showing the higher ratings for those Off-campus.

3h

Barriers to On-Campus Studies

The Means and the Standard Deviations for the four barriers to on-campus learning serving as dependent variables are reported in Table 4a.

Table 4a

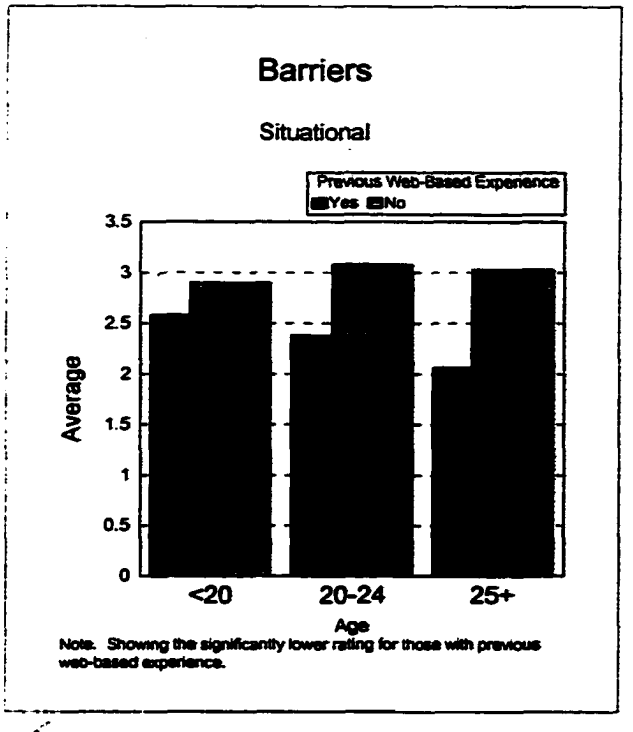
Means and Standard Deviations for the Four Groups of Barriers, for the Three Age Groupings and Previous Web-Based Experience

Barriers	Age	Previous WBE Yes		Previous WBE No	
		Mean	SD	Mean	SD
Situational	<20	2.58	0.99	2.90	0.78
	20-24	2.38	0.81	3.08	0.74
	25+	2.06	0.78	3.03	0.84
Institutional	<20	2.38	0.99	3.25	0.78
	20-24	2.93	0.75	3.43	0.73
	25+	2.53	0.65	3.06	0.70
Dispositional	<20	2.63	0.52	3.23	0.80
	20-24	3.14	0.95	3.36	0.80
	25+	2.44	0.84	3.25	0.79
Learning Styles	<20	1.92	0.58	2.35	0.68
	20-24	2.30	0.81	2.34	0.66
	25+	2.63	0.48	3.07	0.74

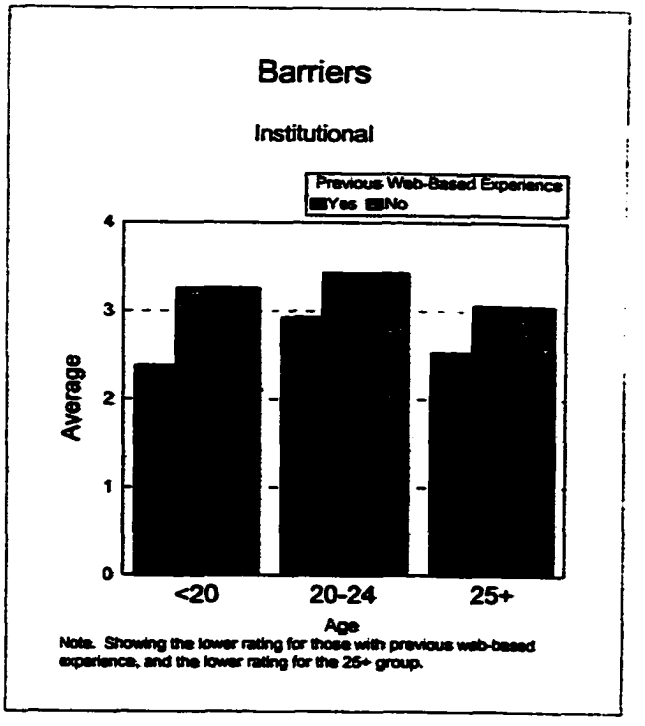
A multivariate analysis of variance (MANOVA) was computed using Age (<20, 20-24, 25+) and WBE (Yes, No) as the independent variables for the four barrier-variables (situational, institutional, dispositional, and learning styles). There was a significant main effect for Age, F (8, 322)= 4.65, $p< .001$, and for WBE, F (4, 165)= 9.30, $p< .001$. There were no significant interaction effects. The subsequent univariate analyses for main effects for Age showed significant effects for a) institutional barriers ($p< .05$) with the lower rating for both the 25+ group and the <20 group (See Figure 4b), b) dispositional barriers ($p< .05$) with the significantly lower rating for the

older students (See Figure 4c). It seems that older students are less confident in their learning abilities than younger students and they also feel rather uncertain about successful completion of courses in either mode. The subsequent univariate analyses for main effects for Age also showed significant effects for Learning Style barriers ($p < .05$) with the significantly lower rating for the younger students (See Figure 4d). It seems that older students are more rigid with respect to learning style. The subsequent univariate analyses for main effects for WB Experience showed significant difference for all four groups of barriers including situational ($p < .05$) with the significantly lower rating for those with previous WBE (See Figure 4a). It seems that students who took DE courses before and chose to enroll in web-based courses this time did so because of their successful experience with dealing with various barriers, as well as their preferred learning style, i.e., web-based format.

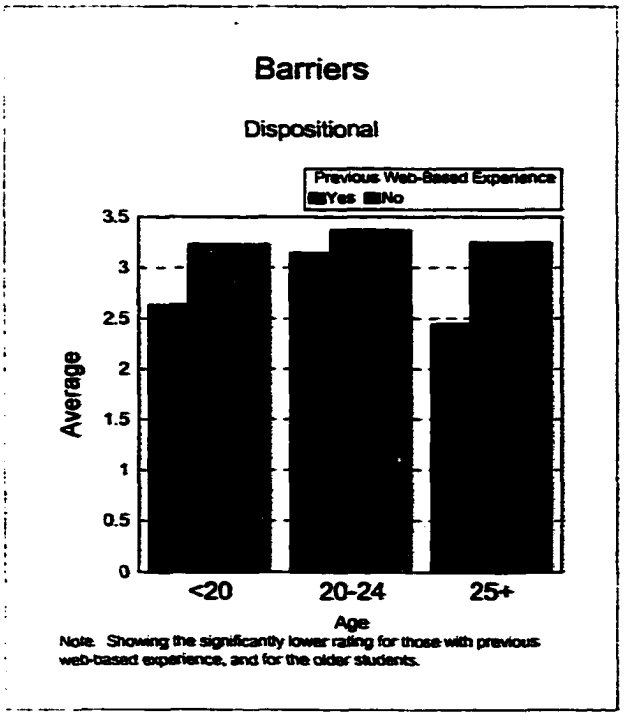
Figure 4. Interaction Effects for Age and Previous WBE (Barriers)



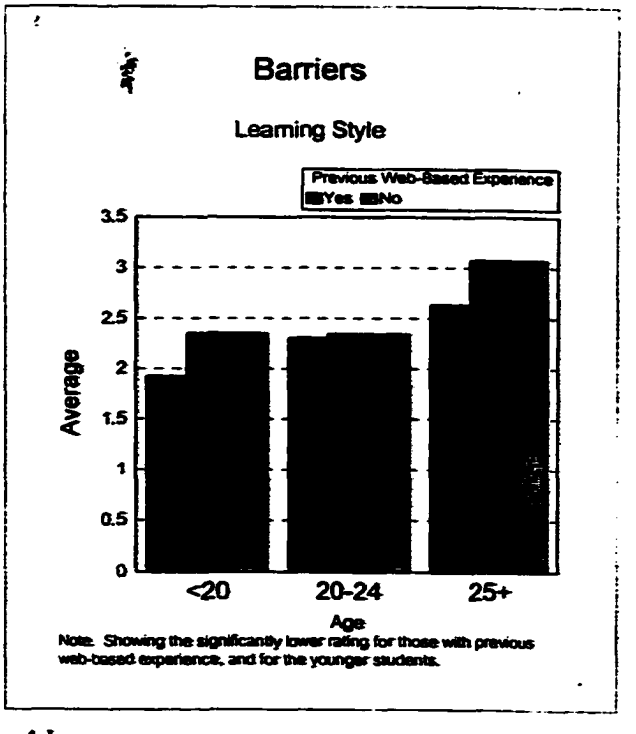
4a



4b



4c



4d

The Means and the Standard Deviations for the four barriers to on-campus learning serving as dependent variables are reported in Table 4b.

Table 4b

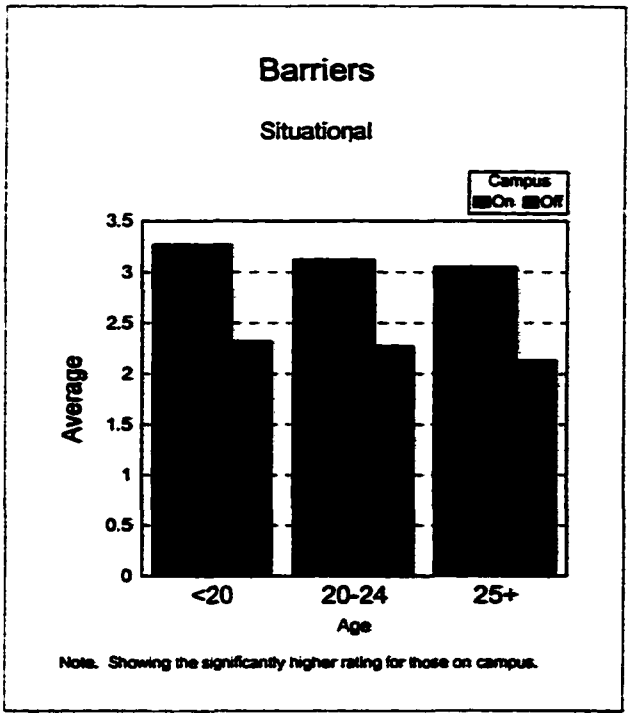
Means and Standard Deviations for the Four Groups of Barriers, for the Three Age Groupings and Learning Format

Barriers	Age	Learning Format On-campus		Learning Format Off-campus	
		Mean	SD	Mean	SD
Situational	<20	3.27	0.72	2.32	0.56
	20-24	3.12	0.70	2.27	0.79
	25+	3.05	0.89	2.13	0.76
Institutional	<20	3.58	0.71	2.58	0.70
	20-24	3.60	0.70	2.68	0.53
	25+	3.02	0.70	2.63	0.70
Dispositional	<20	3.38	0.76	2.85	0.75
	20-24	3.55	0.84	2.89	0.80
	25+	3.07	0.79	2.73	0.99
Learning Styles	<20	2.14	0.67	2.49	0.65
	20-24	2.28	0.72	2.37	0.76
	25+	2.90	0.71	2.85	0.64

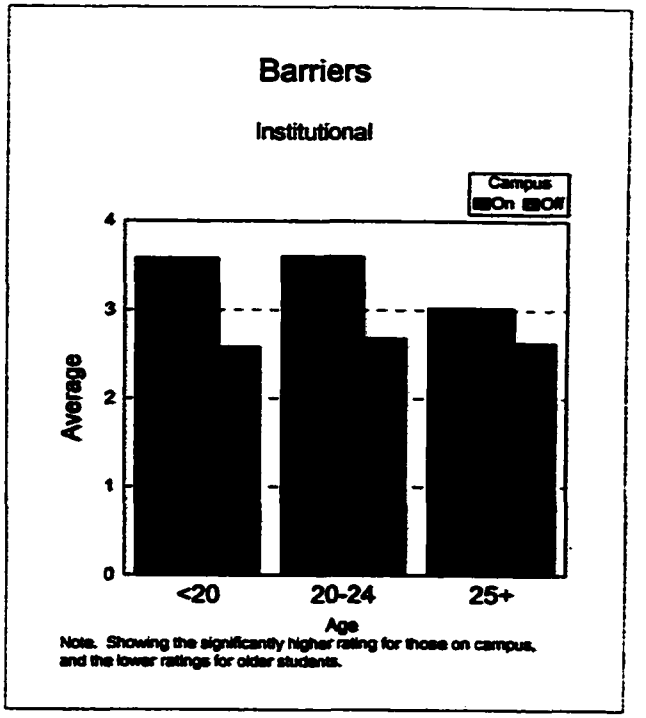
A multivariate analysis of variance (MANOVA) was computed using Age (<20, 20-24, 25+) and Learning Format (On-campus, Off-campus) as the independent variables for the four barriers-variables (situational, institutional, dispositional, and learning styles). There was a significant main effect for Age, $F(8, 322) = 4.21$, $p < .001$, and for Learning Format, $F(4, 165) = 26.41$, $p < .001$. There were no significant interaction effects reported. The subsequent univariate analyses for Age showed significant main effects for a) institutional barriers ($p < .05$) with the significantly lower rating for older students (See Figure 5b), and b) learning style preferences ($p < .05$) with the significantly higher rating for older students (See Figure 5d). It seems older students are more rigid

with respect to learning style. The subsequent univariate analyses for main effects for Learning Format showed significant difference for a) situational barriers ($p < .05$) with the significantly higher rating for those on campus (See Figure 5a), b) institutional barriers ($p < .05$), and c) dispositional barriers ($p < .05$) with the significantly higher rating for those on campus (See Figure 5c). It seems that on-campus students are less concerned about barriers (situational, dispositional, and institutional).

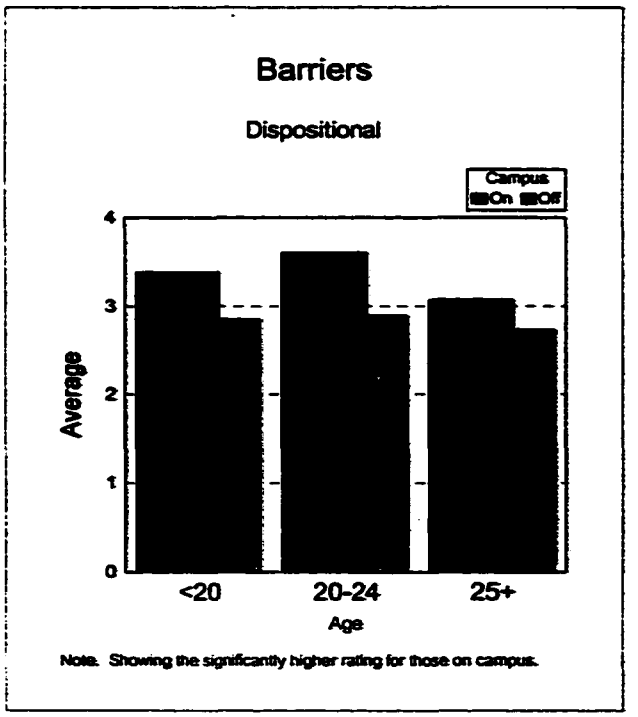
Figure 5. Interaction Effects for Age and Learning Format (Barriers)



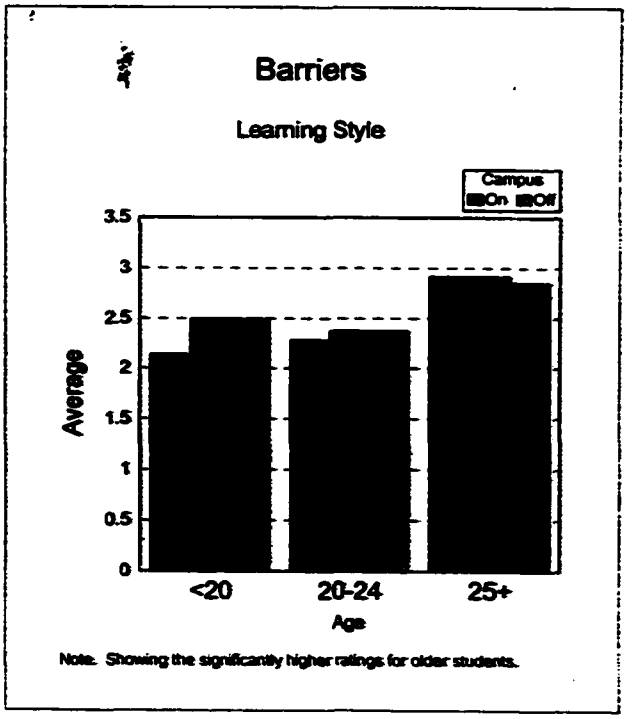
5a



5b



5c



5d

Barriers to On-Campus Learning
(DE Students' Responses Only)

To analyze the data of Part V of the questionnaire, dealing with the reasons of DE students for enrollment in Web-based courses instead of on-campus studies, crosstabs analyses were applied.

Relationship Between Employment Status and Barriers to On-Campus Studies

Crosstab testing indicated that a significant relationship existed between Transportation Difficulties faced by the distance education students and their Employment Status, chi-squared (12)= 24.65, $p<.05$. Specifically, only six students who were unemployed and three students who were employed full-time 'strongly agreed' to the statement of transportation difficulties as one of the reasons for their preference of DE format over on-campus (See Table 5a). It seems that even though most students, both unemployed and employed, do not enroll in distance education courses because of transportation problems, those who do are more likely to be unemployed and possibly cannot afford a car.

Statistical testing also indicated the existence of a significant relationship between Employment Status and students' not wanting to go to school full-time, chi-squared (12)= 56.17, $p<.05$. Over 68% of all full-time employed and 14% of part-time employed students 'strongly agreed' and 'agreed' to the statement that one of their reason for enrollment into Web-based courses instead of on-campus came from the fact that they did not want to go to school full-time. It seems that students who are employed prefer to enroll in DE format on a part-time basis because of their work responsibilities (See Table 5a).

Crosstab testing showed another significant relationship between Employment Status and students' Physical Disabilities, chi-squared (6)= 13.25, $p<.05$. The results showed that no one considered physical disabilities to be a reason for enrolling in a DE program instead of on-campus, but amongst the unemployed there was a more balanced response between 'strongly disagree' and 'disagree.' The difference showed up as significant due to the unbalanced response amongst the full- and part-time employed students between 'strongly disagree' and 'disagree' (See Table 5a).

Table 5a

Frequencies and Percentages For Barriers to On-Campus Learning and Employment Status

Barriers		Unemployed		F/T Employed		P/T Employed		Homemaker	
		Freq	%	Freq	%	Freq	%	Freq	%
Transportation Difficulties	Str Agree	1	2.6%	3	18.8%	1	4.8%	0	0%
	Agree	5	12.8%	0	0%	1	4.8%	0	0%
	Neither	0	0%	1	6.3%	0	0%	1	33.3%
	Disagree	14	35.9%	4	25.0%	8	38.1%	2	66.7%
	Str Disagree	19	48.7%	8	50.0%	11	52.4%	0	0%
Not wanting to go to school full-time	Str Agree	0	0%	5	31.3%	1	4.8%	0	0%
	Agree	0	0%	6	37.5%	2	9.5%	2	66.7%
	Neither	3	7.7%	2	12.5%	5	23.8%	0	0%
	Disagree	32	82.1%	3	18.8%	7	33.3%	1	33.3%
	Str Disagree	4	10.3%	0	0%	6	28.6%	0	0%
Physical Disabilities	Str Agree	0	0%	0	0%	0	0%	0	0%
	Agree	0	0%	0	0%	0	0%	0	0%
	Neither	0	0%	1	6.3%	0	0%	0	0%
	Disagree	13	33.3%	3	18.8%	1	4.8%	2	66.7%
	Str Disagree	26	66.7%	12	75.0%	20	95.2%	1	33.3%

Statistical testing indicated no significant relationships between Employment Status and the following dependent variables: 1) situational barrier - Time Constraints ('work can be scheduled whenever a students has time'), chi-squared (9)= 8.81, $p>.05$;

2) dispositional barrier - Physical State of a participant ('a student is tired of school and classes'), chi-squared (12)= 18.38, $p>.05$ (See Table 5b).

Table 5b

Frequencies and Percentages For Barriers to On-Campus Learning and Employment Status

Barriers		Unemployed		F/T Employed		P/T Employed		Homemaker	
		Freq	%	Freq	%	Freq	%	Freq	%
Time Constraints	Str Agree	10	25.6%	9	56.3%	5	23.8%	1	33.3%
	Agree	27	69.2%	6	37.5%	16	76.2%	2	66.7%
	Neither	1	2.6%	1	6.3%	0	0%	0	0%
	Disagree	1	2.6%	0	0%	0	0%	0	0%
	Str Disagree	0	0%	0	0%	0	0%	0	0%
Physical State (Tired of School)	Str Agree	11	28.2%	5	31.3%	13	61.9%	0	0%
	Agree	13	33.3%	6	37.5%	5	23.8%	1	33.3%
	Neither	13	33.3%	3	18.8%	2	9.5%	1	33.3%
	Disagree	2	5.1%	2	12.5%	0	0%	1	33.3%
	Str Disagree	0	0%	0	0%	1	4.8%	0	0%

Relationship Between Age and Barriers to On-Campus Studies

Question 1 of Part V examined students' Age in relation to their problem with Transportation that prevented them from attending on-campus studies. Crosstab testing indicated the presence of a significant relationship, chi-squared (12)= 24.04, $p<.05$ (See Table 5c). The results showed that there were two groups of students who 'strongly agreed' or 'agreed' with the statement. The first group included students who were less than 20 years old (19.2%) and who probably experienced transportation problems because they simply did not own a car. The second group included the students over 30 years old (27.3%) who probably experienced transportation difficulties because they had to share a car with some other family member.

Question 2 examined students' Age in relation to Part-time studies verses Full-time studies. Crosstab testing indicated the presence of a significant relationship, chi-

squared (12)= 47.75, p<.05 (See Table 5c). The results showed that older students tend to enroll in DE format over on-campus. Twelve percent of students age 20-24 and 82% of students over 30, 'strongly agreed' or 'agreed' with the statement. It seems that their time constraints made part-time studies more attractive. It is also possible that home and work responsibilities prevent older students from attending full-time studies on-campus.

Table 5c

Frequencies and Percentages For Barriers to On-Campus Learning and Age

Barriers		<20		20-24		25-29		30-34	
		Freq	%	Freq	%	Freq	%	Freq	%
Transportation Difficulties	Str Agree	0	0%	2	6.1%	0	0%	3	27.3%
	Agree	5	19.2%	1	3.0%	0	0%	0	0%
	Neither	0	0%	0	0%	1	11.1%	1	9.1%
	Disagree	8	30.8%	13	39.4%	4	44.4%	3	27.3%
	Str Disagree	13	50.0%	17	51.5%	4	44.4%	4	36.4%
Not wanting to go to school full-time	Str Agree	0	0%	1	3.0%	0	0%	5	45.5%
	Agree	0	0%	3	9.1%	3	33.3%	4	36.4%
	Neither	6	23.1%	2	6.1%	1	11.1%	1	9.1%
	Disagree	16	61.5%	21	63.6%	5	55.6%	1	9.1%
	Str Disagree	4	15.4%	6	18.2%	0	0%	0	0%

Questions 3, 4, and 5 examined students' Age in relation to 1) time constraints ('work can be scheduled whenever a students has time'), 2) physical state of a participant ('a student is tired of school and classes'), and 3) physical disabilities. No significant relationships were found between age and those three dependent variables: chi-squared (9)= 13.23, p>.05, chi-squared (12)= 5.53, p>.05, chi-squared (6)= 11.46, p>.05 (See Table 5d).

Table 5d

Frequencies and Percentages For Barriers to On-Campus Learning and Age

Barriers		<20		20-24		25-29		30-34	
		Freq	%	Freq	%	Freq	%	Freq	%
Time Constraints	Str Agree	5	19.2%	9	27.3%	4	44.4%	7	63.6%
	Agree	20	76.9%	23	69.7%	5	55.6%	3	27.3%
	Neither	1	3.8%	0	0%	0	0%	1	9.1%
	Disagree	0	0%	1	3.0%	0	0%	0	0%
	Str Disagree	0	0%	0	0%	0	0%	0	0%
Physical State (Tired of School)	Str Agree	12	46.2%	12	36.4%	2	22.2%	3	27.3%
	Agree	8	30.8%	9	27.3%	4	44.4%	4	36.4%
	Neither	5	19.2%	8	24.2%	3	33.3%	3	27.3%
	Disagree	1	3.8%	3	9.1%	0	0%	1	9.1%
	Str Disagree	0	0%	1	3.0%	0	0%	0	0%
Physical Disabilities	Str Agree	0	0%	0	0%	0	0%	0	0%
	Agree	0	0%	0	0%	0	0%	0	0%
	Neither	0	0%	0	0%	0	0%	1	9.1%
	Disagree	8	30.8%	10	30.3%	0	0%	1	9.1%
	Str Disagree	18	69.2%	23	69.7%	9	100.0%	9	81.8%

CHAPTER V

DISCUSSION

The purpose of the study was to identify the demographic characteristics and the motivational profile of the distance-learning students, as well as to find out what barriers and facilitators affect the enrollment decision. The research questions generated the following hypotheses:

1. There is a difference in motivational goals of students who enroll in distance education program and students who enroll in traditional on-campus learning.
2. Dominating motivational factors that influence students enrolling in distance education are degree seeking (personal gains), getting information (knowledge), and job enhancement (personal gains).
3. There is a difference in barriers for enrollment between on-campus and DE students. Situational and dispositional are the main contributors to students' choice of distance education format over the on-campus format.

In this chapter, the results are discussed and conclusions are made based on these results. Implications of findings, recommendations for further studies, and limitations of the study will also be included in this chapter.

Demographic Characteristics

One of the objectives of this research study was to provide demographics of DE students at the University of Windsor. The significant characteristics of the population pertinent to this study are:

1. In terms of age, 41.8% of DE students are between the ages 20 to 24, and

32.9% are less than 20 years old.

2. Women significantly outnumber the men, 73.4% versus 26.6%.
3. Single respondents outnumber married respondents by more than two to one, 65.8% versus 30.4%.
4. Occupation is described as 'students' by 93.7%, and only 6.3% of respondents are professionals.
5. Seventy-four percent are full-time students versus 26% who are part-time.
6. Forty-nine percent are unemployed and 47% are employed full or part-time.
7. Income level is less than $10, 000 for 57% of respondents. Fourteen percent earn between $30, 000 to $40,000 annually.
8. Sixty percent have taken Web-based courses before and 40% have not.

Demographic findings obtained in this research study are consistent with the ones reported in earlier research studies (MacBrayne, 1995; Wallace, 1996). Previous findings showed that DE student population is currently shifting towards younger students, most of whom are females age 23 working about 20 hours per week. There is a 50% chance that DE course in which they are registered is not their first one (Wallace, 1996).

With respect to students' computer knowledge, no significant relationships existed between the five dependent variables (databases, spreadsheets, word processing, e-mail, and Internet) and Learning Format. The results showed that DE students possess just a slightly higher level of computer experience than on-campus students, however, the difference was not statistically significant.

A review of demographic characteristics of the students who admitted to having the highest level of computer knowledge indicated that it was the younger age group that

was the most computer literate with respect to databases, spreadsheets, e-mail, and Internet. It was also found that the older group has the lower level of computer skills. Older students may be more set in their ways. Gender differences were evident for databases, e-mail, and Internet usage. With respect to databases, females appeared to be more knowledgeable than males, however, with respect to e-mail exchange and Internet surfing, males significantly outnumbered females.

Difference in Motivations of DE and On-Campus Students

The first hypothesis that the DE students would differ from on-campus students in motivational goals was partially supported. The third part of the questionnaire included a wide spectrum of motivational goals: knowledge (getting information, satisfying curiosity, filling in the blanks in previous education), personal gains (getting a new job, advancing in a current job, getting a license or degree), community goals (understanding community problems, becoming a better citizen, working for solutions to problems), social reasons (meeting new people, feeling sense of belonging), escape reasons (getting away from routine, and personal problems), obligation fulfillment (meeting educational standards, satisfying employer), personal fulfillment (becoming a better parent or spouse, becoming a happier person, pursuing a long-standing interest), cultural knowledge (studying own culture). The results showed that students would enroll in distance education for any of the above-mentioned motivational reasons. Specifically, there were 42 students who admitted choosing a DE course for the reason of knowledge acquisition, 19 students enrolled for personal gains, 33 for community goals, 11 for social reasons, 39 for escape reasons, 24 for fulfillment of obligations, 40 for personal fulfillment, and 9 for cultural knowledge.

Among the traditional students the same eight motivational goals for enrollment were revealed. Specifically, there were 54 students who admitted choosing on-campus courses for the reason of knowledge acquisition, 45 students enrolled for personal gains, 54 for community goals, 50 for social reasons, 51 for escape reasons, 24 for fulfillment of obligations, 50 for personal fulfillment, and 53 for cultural knowledge.

To further test the hypothesis that there is a difference in motivational goals of the DE and on-campus students, the univariate analyses were computed using Age (<20, 20-24, 25+) and Learning Format (On-campus, Off-campus) as the independent variables for the eight motivational variables. They showed significant interaction effects only for escape reasons with the lower ratings for older on-campus students. It seems that some older traditional students, as opposed to DE students, enroll in courses to get away from their daily routine and personal problems. The subsequent univariate analyses for remaining main effects for Learning Format showed significant difference for a) personal gains, b) community goals, c) social reasons, d) personal fulfillment, and e) cultural knowledge – all with the higher ratings for Off-campus students and lower ratings for on-campus students. This finding supports the notion that motivational goals of DE and traditional students differ significantly. Research suggests that motivational differences are caused by the differences in characteristics of on- and off-campus students themselves. DE students are considered to be more mature, they have more concrete learning goals, and they are achievement-oriented (Cranton, 1989; Benshoff & Lewis, 1992). However, even though the hypothesis about the difference in motivations of DE and on-campus students for enrollment was accepted, the results showed DE students were less motivated than on-campus students. This result went against the literature

inclination and our initial prediction that DE students have stronger motivational goals than traditional students. This effect might be caused by the fact that on-campus students were willing to invest more effort and time in to their studies. It's also possible that a personality variable was very strong in on-campus students. MacBrayne (1995) suggested that students who prefer DE mode to on-campus one, often lack self-confidence and stress out a lot about the traditional mode.

Dominating Motivations for Enrollment

As results showed, students have multiple and diverse reasons for enrolling in DE format. Based on the previous research findings of MacBrayne (1995) on dominating reasons for enrollment in distance education courses, it was hypothesized that among the leading motivational factors for students' enrollment in DE format were personal gains and knowledge. The results of this study showed that among the leading motivational goals for enrollment among DE students were knowledge acquisition (N=42), community goals (N=33), escape reasons (N=39), and personal fulfillment (N=40). These results support the findings of a number of researchers who suggested that non-traditional students usually come to education with set intentions, which may be social or personal, seeking information and knowledge, and other reasons. In general, their motivations range from personal to pressures (Cross, 1981; Rogers, 1989; Porter, 1997). The results of this study are also consistent with the findings of Aslanian and Brickell's (1980) research study, who among the dominating motivations for enrollment in DE, named personal fulfillment and personal gains.

Crosstab testing also indicated a presence of significant relationships in dominating motivational goals of DE and on-campus students with stronger ratings for

on-campus students for personal gains (70% vs. 30%), community goals (62% vs. 38%), social reasons (82% vs. 18%), and cultural knowledge (85% vs. 15%).

Barriers to On-Campus Studies

It was hypothesized that situational and dispositional barriers would be the main contributors to students' choice of Distance Education format over the On-campus format. Parts IV and V of the questionnaire were designed for the purpose of investigating barriers to on-campus learning.

Multiple analyses of variance computed using Age (<20, 20-24, 25+) and Learning Format as the independent variables for the four barriers did not show any significant interaction effects. The univariate analyses for main effects for Age showed significant difference for a) institutional barriers with the lower ratings for older students and b) learning style preferences with the significantly higher rating for older students. It seems that older students are more rigid with respect to Learning Style. The univariate analyses for main effects for Learning Format showed significant difference for situational, institutional, and dispositional barriers with the significantly lower rating for those off campus. These results are consistent with the MacBrayne's (1995) research findings. The researchers suggested that a large number of students enroll in DE courses instead of on-campus because of psychological (dispositional barriers). It was also found that students, who prefer DE mode to on-campus, often lack self-confidence to enroll at a campus and stress out a lot about the face-to-face mode.

The results did not reveal any gender differences within the dispositional barriers, as suggested by Grace (1994). Gender variable was completely excluded based on the

preliminary analysis that showed that there were no main or interaction effects between the variables.

Relationship Between Employment status and Barriers to On-Campus Studies

Crosstab testing indicated that a significant relationship existed between the employment status of DE students and transportation difficulties they have to face. Six students who were unemployed and three students who were employed full-time named transportation difficulties to be one of the reasons for their preference of DE format over on-campus. It seems that even though most students, both unemployed and employed, do not consider transportation difficulties to be a barrier to on-campus learning, those ones who experience it are unemployed and cannot afford a car. This result does not support previous research finding that named transportation problem (situational barrier) to be one of the main attractions to distance education studies (Garland, 1993). This effect was possibly caused by the fact that 94% of DE students reside in Windsor and do not have to travel far to get to school. It is also a fact that a majority of DE students participating in this study are full-time on-campus students taking DE courses occasionally.

Statistical testing also indicated the presence of a significant relationship between employment status and students' not wanting to go to school full-time. Over 68% of all full-time employed and 14% of part-time employed students agreed that one of their reasons for enrolling in Web-based courses instead of on-campus was the fact that they did not want to go to school full-time. It seems that students who are employed prefer to enroll in DE format on a part-time basis because of their work responsibilities and time-constraints related to those responsibilities. This effect was possibly caused by the fact that employed students lack time for full-time studies, however, they would still like to

continue their education on a part-time basis for different reasons. These results support our original predication, as well as the findings of Hezel and Dirr's(1991) research study, that situational barriers are main contributors to students' choice of DE format.

Crosstab testing showed another significant relationship between Employment Status and students' Physical Disabilities. The difference showed up as significant due to the unbalanced response amongst the full- and part-time employed students between 'strongly disagree' and 'disagree.' The results also showed that neither unemployed nor employed students enroll in DE courses because of physical disabilities. This result does not support previous research findings that named physical disabilities that fall into the category of situational barriers, to serve as a barrier to on-campus studies (Garland, 1993; Rossman, 1993). This effect was possibly caused by the fact that there were no physically challenged students among the ones who participated in this study.

Relationship Between Age and Barriers to On-Campus Studies

Crosstab testing indicated the presence of a significant relationship between student's age and transportation problems. The results showed that even though most of the students do not enroll in DE format because of their problems with transportation, those students who do are either very young and might not be able to afford a car or they are over 30 and face some other problems (e.g., parking or necessity to share a car with another family member).

Limitations of the Study

While every attempt was made to control for extraneous variables, some insignificant limitations of this design might have had an effect on the results of the study. They are: (1) Student's personal characteristics. The fact that how quickly a

student might get tired or get bored while answering the test questions effects his answers. (2) Willingness of the students to participate might also have an impact on the test. (3) Technical problems that might have occurred in process of completion of the questionnaire on-line.

Findings may not be applicable to DE students who are enrolled in a delivery format other than Web-based, as they may face a different set of barriers. Nevertheless, the findings may have some applicability to other DE programs utilizing computerized distributed learning. The results of the study can also be applied to any higher educational institution with similar demographic characteristics. They could also be of a great help to teachers widely using technology in their course work.

Implications of Findings

Making meaning of the findings in this study is key to providing useful information for practitioners and researchers in the field of adult education and instructional design. The purpose of this study was to identify the motivational profile of the DE student. Because of the small sample size, it will be appropriate to repeat this study when enrollment in web-based courses reaches a level that will provide sufficient subject numbers to ensure the validity of the results. However, we still think that this study was successful in identifying the primary motivational goals of DE students and barriers to on-campus learning.

It is recommended that a process is established that would allow students to develop and articulate their personal goals, and support should be made available to help them achieve these goals.

This study demonstrated that students not only enroll for diverse reasons, they come to educational institutions with a range of educational backgrounds. It is essential to respond to this diversity with various types of educational programs. Educators who understand the varied backgrounds, life circumstances, and developmental stages of distance education students can help facilitate their enrollment in undergraduate programs when it is needed.

There are many implications for further research. Another study might explore how previous education, age, and other variables impact the development of goals and motivations. While this study also examined the barriers to on-campus learning, higher educational institutions personnel should seek to learn more about them. Finally, a future study could examine the motivational reasons behind students' decision to drop out of DE programs.

Even though this thesis seemed to pose more questions than answers, it explored the issues of motivational goals rather broadly and provided some directions for practitioners. It also confirmed findings of other research studies on motivational traits and barriers.

CHAPTER VI

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CHAPTER VII

APPENDIXES

APPENDIX A

COVER LETTER AND STUDENT CONSENT FORM

August 14, 2000

RE: **Quantitative questionnaire**

Dear student:

As a graduate student in the Faculty of Education at the University of Windsor, I, Elena Qureshi, am writing this to inform you that you have been randomly selected to participate in a research project. The project investigates the motivational traits of distance education students. This study will form the basis of my Masters of Education thesis at the University of Windsor. A total of 200 students will be surveyed. The results of the study will provide insight into leading motivations that influence the decision to enroll as well as barriers and facilitators that affect the enrollment decision.

Please note that participation in this study is voluntary. You can withdraw from the study at any time without any concern. If you have any questions about the questionnaire or study itself, you can reach me at (519) 973 0602 or via e-mail elenaqureshi@eudoramail.com. Concerns of ethical nature can be addressed to my advisor, Dr. Morton. He can be reached at (519) 253-3000 ext.3800

Please return the completed questionnaire by September 20, 2000. By returning the completed questionnaire, you are indicating consent to participate in the survey. You are ensured complete confidentiality. Any identification characteristics, in case there are any, will be deleted from the records.

Thank you for your time and consideration.

Elena Qureshi

APPENDIX B

MOTIVATIONAL QUESTIONNAIRE

Instructions:
Specific instructions are given for completing different parts of this questionnaire. When filling out the questionnaire, please

answer *all* the questions with respect to *distance education*, if you have taken or are currently taking a distance education course(s).

OR

answer *all* the questions with respect to *on-campus courses* if you have not taken any distance education courses at the University of Windsor.

Please check the appropriate box:
☐ I am taking all the courses on-campus ☐ I am/was taking distance education courses

Part I: *Please record the following information*.
Any personal information will be used for survey analysis only. Your name should not appear anywhere on the survey.

1. Age: under 20___ 20-24___ 25-29___ 30-34___ 35-39___ 40 or over____

2. Gender: Male ___ Female ___

3. Marital status: single___ married___ widowed___ divorced___ other_____

4. Number of children: 0___ 1___ 2___ 3___ 4 or more_____

5. Vocational level: none___ professional___ skilled manuf/clerical_____
unskilled/construc_____ farming_____ homemaker_____

6. Degree from (if any)_____

7. Employment status: unemployed___ full-time employed___
part-time employed___ homemaker___

8. Occupation: student___ professional___ skilled manuf/clerical___
unskilled/construc___ farming___ homemaker_____

9. Income level (household): under $10,000___ 10-20,000___ 20-30, 000_____
30- 40,000___ 40-50,000___ over 50,000_____

10. Major field of study: Arts__ Social Science__ Business__ Science__ Other__

11. Full-time___ Part-time___

12. Year of study: 1___ 2___ 3___ 4___

13. Place of residence: Windsor__ Leamington__ Chatham__ Sarnia__ Other___

14. Components of courses taken: E-mail___ Web-page discussion___ Print___
Audio Cassette___ CD___ Computer Software___ PC___ Lecture_____
PC and Modem___ Video Cassette___ Discussion___ Other_____
15. Web-based courses taken before: Yes___ No___

Part II: *Please evaluate your computer skills.*

For each of the following statements, mark the response that best reflects your feelings according to the code listed below.

1 – strongly agree	2 – agree	3 – neither agree nor disagree	4 – disagree	5 – strongly disagree

1. I know how to use databases _____ 1 2 3 4 5
2. I have experience in using spreadsheets _____ 1 2 3 4 5
3. I'm quite competent with word-processing _____ 1 2 3 4 5
4. I exchange e-mail messages with others on a regular basis ____ 1 2 3 4 5
5. I know a lot about the Internet _____ 1 2 3 4 5

Part III: *Respond to the following statement using the same 5-point system:*

The reasons why I enrolled in ***Distance education courses*** / ***OR*** / ***On-campus course*** *are to:*

1. Become better informed _____ 1 2 3 4 5
2. Satisfy curiosity _____ 1 2 3 4 5
3. Fill in the blanks in my previous education _____ 1 2 3 4 5
4. Get new job _____ 1 2 3 4 5
5. Advance in current job _____ 1 2 3 4 5
6. Get certificate, license _____ 1 2 3 4 5
7. Attain degree _____ 1 2 3 4 5
8. Understand community problems _____ 1 2 3 4 5
9. Become better citizen _____ 1 2 3 4 5
10. Work for solutions to problems _____ 1 2 3 4 5
11. Meet new people _____ 1 2 3 4 5
12. Feel sense of belonging _____ 1 2 3 4 5
13. Get away from routine _____ 1 2 3 4 5
14. Get away from personal problems _____ 1 2 3 4 5
15. Meet educational standards _____ 1 2 3 4 5
16. Satisfy employer _____ 1 2 3 4 5

17. Be better parent, spouse _____ 1 2 3 4 5
18. Become happier person _____ 1 2 3 4 5
19. To pursue a long-standing interest or hobby _____ 1 2 3 4 5
20. Study own culture _____ 1 2 3 4 5

Other reasons (specify) _____

_____

Part IV: ***Answer the following statement using the same 5-point system:***

I prefer to enroll in Distance Education mode instead of on-campus mode or vice versa because:

21. I think the cost of the courses I'm enrolled in is more affordable _____ 1 2 3 4 5
22. The mode I am enrolled in is less time consuming _____ 1 2 3 4 5
23. The courses I'm taking do not interfere with my work/home commitments _____ 1 2 3 4 5
24. Attendance is not required _____ 1 2 3 4 5
25. The course(s) I would like to take is not offered in the other mode _____ 1 2 3 4 5
26. The mode I'm enrolled in is less stressful _____ 1 2 3 4 5
27. I 'm not confident enough that I'll be able to complete a course (s) offered in the other mode _____ 1 2 3 4 5
28. In my opinion, the courses in the mode I'm enrolled in are better organized than in the other mode _____ 1 2 3 4 5
29. Compared to the other mode, I think I can receive more detailed feedback on my assignments in the mode I'm enrolled in __ 1 2 3 4 5
30. I learn better from the mode I'm enrolled in than the other one _____ 1 2 3 4 5

Other reasons (specify) _____

_____

Part V: Please respond to the following statement **only** if you are enrolled in **distance education** courses:

I chose to enroll in Distance Education courses because:

1. Transportation difficulties made it difficult for me to get to campus (e.g., poor bus service, or lack of parking, etc.) ___ 1 2 3 4 5
2. I don't want to go to school full-time _____ 1 2 3 4 5
3. Work can be scheduled whenever I have time _____ 1 2 3 4 5
4. I'm tired of school and classes _____ 1 2 3 4 5
5. My physical disabilities (e.g., vision, hearing, mobility) made it difficult for me to attend on-campus courses _____ 1 2 3 4 5

APPENDIX C

LETTER OF PERMISSION TO ETHICS COMMITTEE

Faculty of Education
University of Windsor
Windsor, Ontario
N9B 3P4

2000 08 15

Dr. L. Morton
Chair, Ethics Committee
Faculty of Education

Dear Dr. Morton:

As a graduate student in the Faculty of Education at the University of Windsor, I am writing to request approval for research study, which will be conducted to meet the thesis requirements for a Masters of Education.

The study will investigate the motivational traits of students enrolled in the distance education program at the University of Windsor. Data will be collected from undergraduate students based on the motivational questionnaire. Participation is voluntary and confidentiality is ensured.

There are no known risks associated with this study and participants may withdraw at any time without any concern. Please find the enclosed research proposal that outlines the procedures to be followed, a description of the questionnaire to be used, and letters requesting permission and consent.

If you have any further questions about the questionnaire or study itself, you can reach me at (519) 973 0602 or via e-mail elenaqureshi@eudoramail.com. Concerns of ethical nature can be addressed to my advisor, Dr. Morton. He can be reached at (519) 253-3000 ext.3800. Thank you for your time and consideration.

Sincerely,

Elena Qureshi
encl.

APPENDIX D

LETTER OF PERMISSION TO REGISTRAR AND ADMINISTRATION DEAN

401 Sunset Ave
Windsor, Ontario
N9B 3P4

2000 08 15

Dr. Corlett
Dean of Registrar and Administration
University of Windsor, Ontario

Dear Dr. Corlett:

As a graduate student in the Faculty of Education at the University of Windsor, I am writing to request approval for research study and request permission to access students' records. This study will be conducted to meet the thesis requirements for a Masters of Education.

The study will investigate the motivational traits of students enrolled in the distance education program at the University of Windsor. Data will be collected from undergraduate students based on the motivational questionnaire. Participation is voluntary and confidentiality is ensured.

There are no known risks associated with this study and participants may withdraw at any time. Please find the enclosed the procedures to be followed and a sample of the inventory to be used.

Approval to conduct this research has been granted by the Faculty of Education Ethics Committee. If you have any questions about the questionnaire or study itself, you can reach me at (519) 973 0602 or via e-mail elenaqureshi@eudoramail.com. Concerns of ethical nature can be addressed to my advisor, Dr. Morton. He can be reached at (519) 253-3000 ext.3800. Thank you for your time and consideration.

Sincerely,

Elena Qureshi
encl.

APPENDIX E

LETTER OF PERMISSION TO THE COORDINATOR OF DISTANCE EDUCATION

401 Sunset Ave
Windsor, Ontario
N9B 3P4

2000 08 15

Richard Price
Coordinator of Continuing Education
University of Windsor, Ontario

Dear Richard Price:

As a graduate student in the Faculty of Education at the University of Windsor, I am writing to request approval for research study, which will be conducted to meet the thesis requirements for a Masters of Education.

The study will investigate the motivational traits of students enrolled in the distance education program at the University of Windsor. Data will be collected from undergraduate students based on the motivational questionnaire. Participation is voluntary and confidentiality is ensured.

There are no known risks associated with this study and participants may withdraw at any time. Please find the enclosed the procedures to be followed and a sample of the inventory to be used.

Approval to conduct this research has been granted by the Faculty of Education Ethics Committee. If you have any questions about the questionnaire or study itself, you can reach me at (519) 973 0602 or via e-mail elenaqureshi@eudoramail.com. Concerns of ethical nature can be addressed to my advisor, Dr. Morton. He can be reached at (519) 253-3000 ext.3800. Thank you for your time and consideration.

Sincerely,

Elena Qureshi
encl.

APPENDIX F

LETTER OF PERMISSION TO THE DEAN OF FACULTY OF EDUCATION

Faculty of Education
University of Windsor
Windsor, Ontario
N9B 3P4

2000 08 15

Dr. I. Crawford
Dean of the Faculty of Education
University of Windsor, Ontario

Dear Dr. Crawford:

As a graduate student in the Faculty of Education at the University of Windsor, I am writing to request approval for research study, which will be conducted to meet the thesis requirements for a Masters of Education.

The study will investigate the motivational traits of students enrolled in the distance education program at the University of Windsor. Data will be collected from undergraduate students based on the motivational questionnaire. Participation is voluntary and confidentiality is ensured.

There are no known risks associated with this study and participants may withdraw at any time. Please find the enclosed the procedures to be followed and a sample of the inventory to be used.

Approval to conduct this research has been granted by the Faculty of Education Ethics Committee. If you have any questions about the questionnaire or study itself, you can reach me at (519) 973 0602 or via e-mail elenaqureshi@eudoramail.com. Concerns of ethical nature can be addressed to my advisor, Dr. Morton. He can be reached at (519) 253-3000 ext.3800. Thank you for your time and consideration.

Sincerely,

Elena Qureshi
encl.

APPENDIX G

LETTER OF PERMISSION TO UNIVERSITY PROFESSORS

XXX Street
Windsor, Ontario
NXX 4XX

2000 08 15

XXXXXXX, Professor
Department of Distance Education/Education
University of Windsor, Ontario

Dear XXXX:

As a graduate student in the Faculty of Education at the University of Windsor, I am writing to request permission to conduct a research study, which will form the basis of my Master of Education thesis.

The study will investigate the motivational traits of students enrolled in the distance education program at the University of Windsor. Data will be collected from undergraduate students based on the motivational questionnaire. Participation is voluntary and confidentiality is ensured.

There are no known risks associated with this study and participants may withdraw at any time. Please find the enclosed the procedures to be followed and a sample of the inventory to be used.

Approval to conduct this research has been granted by the Faculty of Education Ethics Committee, Dr. Larry Morton, Coordinator of Distance Education program, Mr. Richard Price, and the Dean of Faculty of Education, Dr. I. Crawford. If you have any questions about the questionnaire or study itself, you can reach me at (519) 973 0602 or via e-mail elenaqureshi@eudoramail.com. Concerns of ethical nature can be addressed to my advisor, Dr. Morton. He can be reached at (519) 253-3000 ext.3800. Thank you for your time and consideration.

Sincerely,

Elena Qureshi
encl.

APPENDIX H

DEMOGRAPHIC CHARACTERISTICS OF ON-CAMPUS AND DE STUDENTS

Demographic Characteristics		On-Campus	Off-Campus
Age	<20	34.7%	32.9%
	20-24	42.1%	41.8%
	25-29	17.9%	11.4%
	30-34	3.2%	8.9%
	35-39	0%	1.3%
	>40	2.1%	3.8%
Gender	Male	38.9%	26.6%
	Female	61.1%	73.4%
Marital Status	Single	85.3%	65.8%
	Married	12.6%	30.4%
	Divorced	2.1%	3.8%
Number of Dependents	None	90.5%	77.2%
	1	8.4%	13.9%
	2	1.1%	6.3%
	3	0%	2.5%
Vocational Level	None	76.8%	75.9%
	Professional	20%	17.7%
	Manuf/Cleric	2.1%	6.3%
	Unskilled	1.1%	0%
Employment Status	Unemployed	56.8%	49.4%
	F/T employed	8.4%	20.3%
	P/T employed	33.7%	26.6%
	Homemaker	1.1%	3.8%
Occupation	Student	92.6%	93.7%
	Professional	5.3%	6.3%
	Clerical	1.1%	0%
	Homemaker	1.1%	0%
Income Level	< than $10,000	66.3%	57%
	$10-20,000	15.8%	3.8%
	$20-30,000	3.2%	8.9%
	$30-40,000	3.2%	13.9%
	$40-50,000	6.3%	7.6%
	>$50,000	5.3%	8.9%

Major Field of Study	Arts	15.8%	8.9%
	Social Science	9.5%	7.6%
	Business	11.6%	16.5%
	Science	46.3%	59.5%
	Other	16.8%	7.6%
Full-Time/Part-Time	F/T	93.7%	74.7%
	P/T	6.3%	25.3%
Year of Study	First	55.8%	38%
	Second	28.4%	35.4%
	Third	9.5%	19%
	Fourth	3.2%	7.6%
	Fifth	3.2%	0%
Place of Residence	Windsor	94.6%	93.7%
	Leamington	1.1%	1.3%
	Sarnia	3.2%	2.5%
	Other	1.1%	2.5%
Components of Courses Taken	E-mail	10.5%	63.3%
	Web-page disc	1.1%	16.5%
	Print	18.9%	5.1%
	CD	1.1%	7.6%
	PC & Modem	0%	7.6%
	Lecture	58.9%	0%
	Discussion	9.5%	0%
Previous Web-based Experience	Yes	15.8%	59.5%
	No	84.2%	40.5%

VITA AUCTORIS

NAME:	Elena Qureshi
PLACE OF BIRTH:	Volgograd, Russia
DATE OF BIRTH:	December 3, 1971
EDUCATION:	University of Windsor, Windsor, Ontario 1999-2001 Master of Education
	Volgograd Pedagogical University, Russia 1989-1994 Master of Arts with Honors